

ELECTRIC TYPEWRITER

PARTS CATALOG & SERVICE MANUAL

MODEL JP2

ELECTRIC TYPEWRITER

PARTS CATALOG

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2820 Bremen 70 Telefon 66 26 90

MODEL JP2

ELECTRIC TYPEWRITER

(MODEL: 6211, 6213, 711, 713, S1010D, S1013D, S1003D)

SPECIAL NOTE:

Whenever spare parts may be required, they must be ordered with showing Reference Number, Part Number and Part Name, which listed in Parts Catalog without fail so that we can send you every parts very smoothly and immediately.

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Pictures

Type Bar Unit, Sector Plate, Escapement Mechanism	DA
Key, Bell Crank, Sub Frame	DB
Key Lever, Key Lever Guide	DC
Dog Shelf Holder Unit, Snatch Roll	DD
Shift Mechanism	DE
Margin Release, Tabulator, Governor	DF
Space, Half Space	DG
Return, Return Drum	DH
Tab & Tab Set Clear	DI
Ribbon Feed Mechanism	DJ
Color Change, Card Holder	DK
Touch & Copy Control	DL
Carriage Rail Holder, Spring Drum	DM
Pinion Base	DN
Chassis	DO
Carriage	DP
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Margin Stop, Platen, Tab Frame	DR
Carriage Side Plate	DS
Pulley, Motor Cover	DT
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Cover(II)(M711 & 713)	DU-101~
Cover(III)(S1010D, S1013D & S1003D)	DU-201~
Electrical Components (I) for 100V~125V	DV-1~
Electrical Components (II)	DV-101~
Electrical Components (III) for France	DV-201~
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511032001	DW-17		512326	DU-217	
511033001	DE-52		512330	DU-231	
511049001	DF-25		512331001	DU-247	
511052001	DU- 9, 109, 209		512332001	DG-38- 1	
511080001	DD-27- 1		512333001	DI - 1	
511081001	DH-46, DT-60		512342001	DP- 4 ~ 11	
511091001	DE-24, DF- 6, 35, DG-19		512343001	DP- 4	
	DH- 6		512346001	DP-17	
			512350001	DQ- 1	
511092001	DM-48~60		512352001	DQ- 3	
511093001	DM-52		512353001	DQ- 6	
511096001	DM-51		512354	DQ-13	
511099001	DM-54		512356	DQ-15	
			512363001	DQ-21	
511100001	DM-48		512365001	DR-21~25	
511101001	DM-53		512367001	DR- 4	
511102001	DF-13- 1~ 18		512372001	DP- 4 - 1 ~ 11	
511103001	DF-13- 1		512373001	DP- 4 - 1	
511105001	DF-13~18		512375001	DR-21- 1 ~ 25	

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PART NO.	REF. NO.	REMARK	PART NO.	REF. NO.	REMARK
512377001	DR-4-1				
512378001	DS-37		512722	DU-135-1	
			512725	DU-101	
512414001	DB-72		512727	DU-106-1	
512415	DQ-13-1		512728	DU-106	
512417	DQ-15-1		512729	DB-50	
512422001	DA-63, DE-46		512730	DB-49	
512423001	DA-61, DE-47		512731	DB-46	
512426001	DG-30		512732	DB-103	
512483001	DM-56		512733	DB-48	
			512734	DB-47	
512521001	DJ-1~19		512735	DB-45	
512522001	DJ-24~44		512736	DG-10-1	
512523001	DJ-14, 37		512739	DR-8	
512524001	DJ-23		512743	DR-17	
512525001	DJ-48		512747	DL-1-1	
512526001	DV-2~13, 102~113, 210~221		512749	DL-12-1	
512527001	DK-17		512751	DP-27	
512528001	DK-18		512752	DR-20	
512529001	DM-48~60		512753	DL-6	
512530001	DM-53-1		512754	DL-17	
512532001	DK-15		512755	DU-139	
512539	DU-247-1		512756001	DU-126	
512540001	DP-24-1		512757001	DU-125	
512542001	DP-26-1		512758001	DU-127	
512546001	DP-28-1		512759001	DU-129	
512550001	DE-59		512760001	DU-128	
512552001	DJ-9, 32		512761001	DU-131	
512554001	DE-56		512762001	DU-132, 136	
512556001	DE-61		512765001	DU-116	
512557001	DE-62		512766001	DU-117	
512558001	DE-63		512767001	DU-119	
512560001	DE-65		512768001	DU-120	
512563001	DK-36		512769001	DU-121	
512564001	DE-56~66		512775001	DV-29-1	
512565001	DE-57		512777001	DB-73, DV-46	
512567001	DA-45~65		5127840	DU-101-1	
512568001	DA-45		512788001	DU-107	
512575001	DV-32, 131, 206				
512577001	DP-25		512793001	DR-9~16	
512578001	DV-40, 139, 241		5127940	DU-135	
512623	DU-113		512800	DP-27~28-1	
512642001	DS-31~51		512801	DP-26-1~27	
512643001	DS-31		512802001	DS-1~11	
512651001	DS-34		512803001	DS-1-1	
512662001	DR-19		512804001	DS-31-1~51	
512664001	DR-9-1~16		512805001	DS-31-1	
			512806001	DU-102	
			512807	DU-103	
			512808	DU-106-1~107	
512673	DU-5		512809	DU-106~107	
512675001	DU-6, 104		512810	DU-111	
512676	DU-7-1		512811002	DU-112	
512678001	DU-13		512813001	DU-114	
512679001	DU-22		512817001	DT-45	
512680001	DU-26		512818001	DS-1~28	
512682001	DU-213		512819001	DU-123	
512683001	DU-218		512825001	DP-5	
512685001	DQ-2		512869	DB-12-1	

PART NO.	REF. NO.	REMARK	PART NO.	REF. NO.	REMARK
512870001	DP- 1		513407001	DS- 2 ~ 3	
512871001	DP- 2		513430001	DG-16	
512874001	DP-24		513431001	DC-15	
512876001	DV-1		513432001	DC-19	
512877001	DV-14~18		513433000	DD- 1	
512878001	DV-14		513434001	DD- 8	
512879001	DV-15		513438001	DD- 9	
512880001	DV-16, 116, 224		513440001	DD-10	
512881001	DV-18, 118, 226		513442001	DD-11	
512883001	DV-47		513444001	DD-12	
512889001	DQ-19		513446001	DD-13	
512890	DQ-18		513448001	DD-14	
512891001	DU-133, 137		513450001	DD-15	
512893001	DW-17- 3		513452001	DD-16	
512894001	DW-17- 2		513454001	DD-17	
512898001	DW-17- 6		513456001	DD-18	
			513483001	DD-20	
512901001	DV-28- 1		513484001	DD-21~25	
512928001	DP-16, 31		513485001	DD-21	
512959001	DT-19~28		513488001	DD-22	
512960001	DT-19		513489001	DD-23	
512961001	DT-29~38		513490001	DD-24	
512962001	DT-29		513491001	DD-25	
512963001	DT-36		513494001	DB-98	
512964001	DS-45		513496001	DE- 1	
512968001	DR-27		513499001	DE- 2	
512997001	DU-10-1		513504001	DE- 9	
			513507001	DE- 7	
513036001	DS- 4		513508001	DE-10	
513101001	DC- 1		513510001	DE-11	
513106001	DC- 2		513511001	DE-12	
513108001	DC- 3		513512001	DE-13, DF-30	
513110001	DC- 4		513513001	DE-22	
513112001	DC- 5		513518001	DF-26	
513114001	DC- 6		513519001	DF-29	
513121001	DC- 6- 1		513524001	DF-33	
513123001	DC- 6- 2		513528001	DF-37	
513125001	DC- 6- 3		513530001	DG- 1~6	
513127001	DC- 8		513531001	DG- 1	
513157001	DR-21- 3		513535001	DG- 5	
513158001	DR-21- 1		513537001	DG- 2	
513159001	DV-27		513541001	DG-17	
513160001	DT-53		513544001	DG-22	
513164001	DP-19		513545001	DG-31	
513165001	DP-20		513548001	DH- 1	
513170001	DE-50- 1		513550001	DF- 4, DH- 4	
513171001	DV-240		513553001	DH- 8	
513172001	DE-45~51- 1		513554001	DH- 9	
			513555001	DI -25	
513216001	DR-21- 2		513557001	DI -28	
513217001	DR-21		513558001	DJ -52	
513351001	DV-30, 129		513563001	DJ -53	
513352001	DV-33, 132		513564001	DJ -54	
513358001	DV-26		513566001	DF- 1	
513359001	DV-27		513569001	DL- 8	
513360001	DV-32- 1, 131- 1, 131- 2		513573001	DL-26	
513361001	DV-32- 1 - 1, 131- 1 - 1		513574001	DL-31	
	131- 2- 1		513575001	DO- 1	
513370001	DS-39		513578001	DO- 2	
513387001	DA-57		513582001	DG-21	

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PART NO.	REF. NO.	REMARK	PART NO.	REF. NO.	REMARK
513583001	DJ-21		514022001	DV-201 ~209	
513587001	DJ-46		514023000	DV-203	
513594001	DV-30~38		514026001	DV-204	
513595001	DV-1-1		514029000	DV-205	
513600	DU-30-2		514033001	DV-202	
513603	DU-51-2		514037001	DV-130	
513608001	DU-52, 245		514038001	DV-31	
513619001	DS-33		514039001	DV-30~38	
513623	DU-30		514040001	DV-127-1	
513624	DU-44		514069001	DV-115-1	
513631001	DK-21		514070001	DV-128-1	
513638001	DF-8		514072001	DV-130-1	
513645001	DT-43		514073001	DV-130-2	
513664001	DV-155		514080001	DV-101-3	
513666001	DC-21		514081001	DV-1-2	
513667001	DD-19		514082001	DV-101-4	
513668001	DF-5, 34, DE-23, DH-5		514084001	DV-28	
513669001	DG-18		514085001	DV-129~136	
513694001	DU-12-1		514086001	DV-2~25	
513695001	DU-13-1		514087001	DV-102~126, 210~234	
513696001	DU-21-1		514088001	DV-102~126	
513697001	DU-22-1, 53		514089001	DV-2~27	
513698001	DU-23-1		514090001	DV-102~126	
513699001	DU-24-1		514093001	DV-127-3	
513700001	DU-25-1		514095001	DV-127-4	
513701001	DU-26-1		514112001	DN-6	
513702001	DU-31-1		514113001	DN-5	
513703001	DU-32-1		514115001	DN-129~136	
513704001	DU-33-1		514116001	DV-131-2-2	
513706001	DU-36-1		514117001	DV-159~165	
513707001	DU-37-1		514118001	DV-159	
513708001	DU-45-1		514119001	DV-160	
513709001	DU-46-1		514120001	DV-131-2-3	
513710001	DU-52-1		514121000	DV-161	
513712	DU-11-1				
513713	DU-14-1		515232001	DE-3	
513714	DU-30-1				
513715	DU-44-1		550178001	DV-162	
513716	DU-51-1		550203001	DG-6	
513719001	DO-2-2		550255001	DE-6	
513891001	DM-57		550557001	DT-17	
513918	DU-55		550719002	DU-60, DV-44, 143, 245	
513923001	DF-43		550856001	DV-127-2	
513932001	DD-32		550959001	DV-235	
513933	DP-26~27		550980001	DV-127, 236	
513934	DP-27~28				
513935	DU-30-3		560001054	DW-2-1	
513936001	DO-2-1		560002073	DW-2-2	
			560002078	DW-2	
514001001	DV-101		560030000	DW-15	
514006001	DV-101-1		560060000	DW-8	
514007001	DV-101-2		560102001	DW-4	
514008001	DV-114~118, 222~226		560103001	DW-5	
514009001	DV-114, 222		560141000	DW-6	
514012001	DV-114-1~118		560221000	DW-9	
514013001	DV-114-1		560335001	DW-12	
514016001	DV-115, 223		560465000	DW-14	
514017001	DV-129~136		560468000	DW-15-1	
514019001	DV-128, 237		560516000	DW-11	
514021001	DV-201		560537000	DW-3-1	

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[illegible]

TYPE BAR UNIT, SECTOR PLATE, ESCAPEMENT MECHNISM

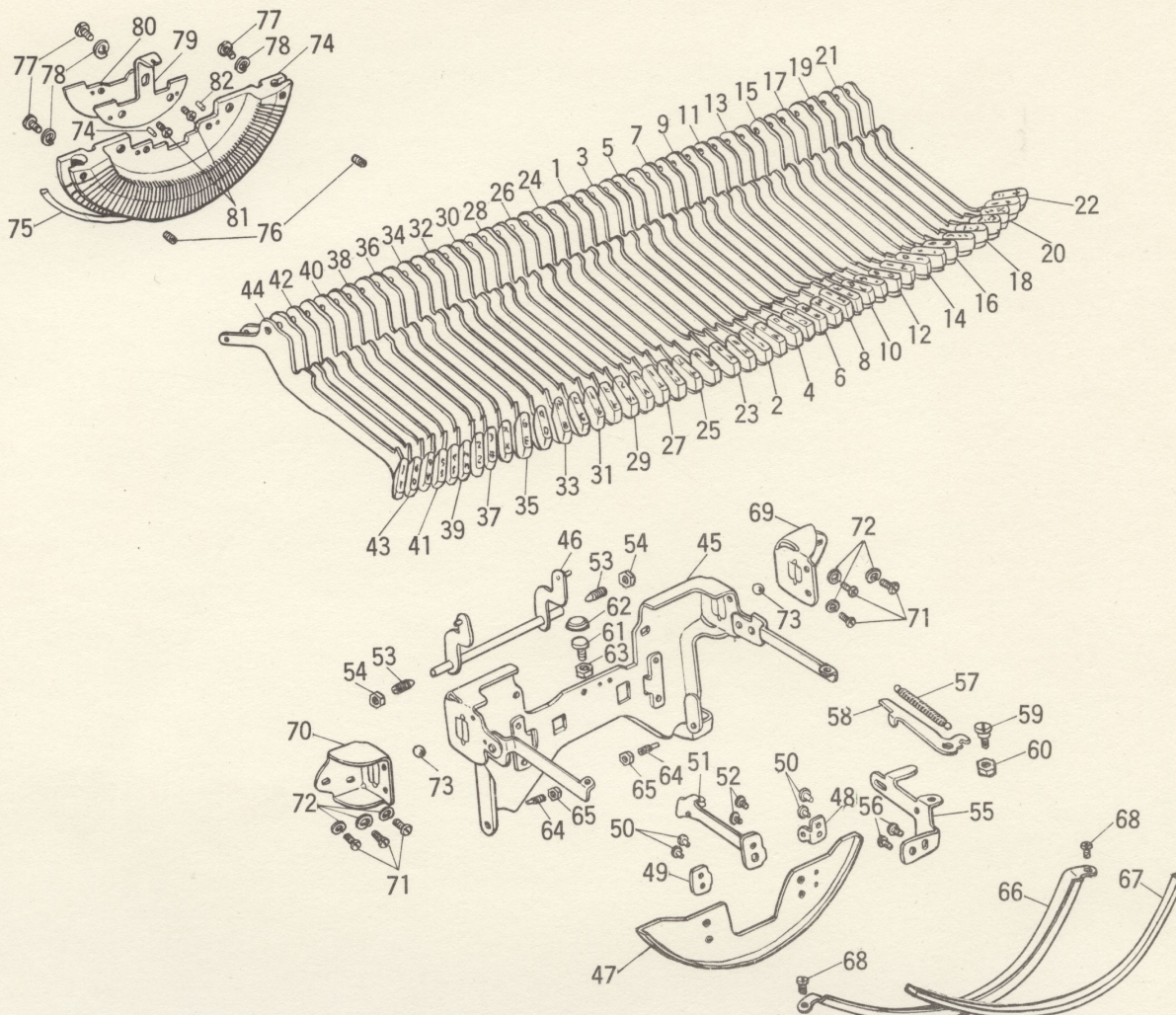


FIG. DA

REF.NO.	PART NO.	PART NAME	Q'TY	MEMO	REF.NO.	PART NO.	PART NAME	Q'TY	MEMO
DA- 1		Type Bar Unit (right 1)(H)	1		DA-43		Type Bar Unit (left 21)(Q)	1	
DA- 2		" (right 2)(7 &)	1		DA-44		" (left 22)(I, /)	1	
DA- 3		" (right 3)(N)	1		DA-45-65	(512567001)	Sector Plate Holder Complete	1	
DA- 4		" (right 4)(U)	1		DA-45	512568001	Sector Plate Holder Unit	1	
DA- 5		" (right 5)(J)	1		DA-46	510742001	Escapement Drive Link Unit	1	
DA- 6		" (right 6)(8*)	1		DA-47-50	(588169001)	Escapement Drive Plate Unit	1	
DA- 7		" (right 7)(M)	1		DA-47	510739001	Escapement Drive Plate	1	
DA- 8		" (right 8)(I)	1		DA-48	510740001	Arm (Right) for DA-47	1	
DA- 9		" (right 9)(K)	1		DA-49	510741001	Arm (Left) for DA-47	1	
DA-10		" (right 10)(9)	1		DA-50	503110001	Pin for DA-47, 48	1	
DA-11		" (right 11)(, ,)	1		DA-51	503745001	Universal Bar	1	
DA-12		" (right 12)(O)	1		DA-52	401881003	Screw for DA-51	2	
DA-13		" (right 13)(L)	1		DA-53	500278001	Center Screw for DA-46	2	
DA-14		" (right 14)(O)	1		DA-54	106129001	Nut for DA-53	2	
DA-15		" (right 15)(. .)	1		DA-55	503748001	Guide for DA-45	1	
DA-16		" (right 16)(P)	1		DA-56	401881003	Screw for DA-55	2	
DA-17		" (right 17)(; :)	1		DA-57	513387001	Spring for DA-51	1	
DA-18		" (right 18)(-)	1		DA-58	503749001	Escapement Stopper	1	
DA-19		" (right 19)(/ ?)	1		DA-59	504651001	Eccentric Stud Screw	1	
DA-20		" (right 20)(1/2 1/4)	1		DA-60	402230001	Nut for DA-59	1	
DA-21		" (right 21)(' *)	1		DA-61	512423001	Screw for DA-45	1	
DA-22		" (right 22)(= +)	1		DA-62	402230001	Nut for DA-61	1	
DA-22-1	508710002	Interchangable Type Bar (= +)	1		DA-63	512422001	Shift Stopper Rubber	1	
DA-22-2	508812001	Interchangable Type (= +)	1		DA-64	505116001	Center Axle for DA-45	2	
DA-23		Type Bar Unit (left 1) (Y)	1		DA-65	402959001	Nut for DA-64	2	
DA-24		" (left 2) (B)	1		DA-66-67	(510698001)	Type Bar Rest Unit	1	
DA-25		" (left 3) (6 8)	1		DA-66	510699001	Type Bar Rest	1	
DA-26		" (left 4) (G)	1		DA-67	510700001	Rubber for DA-66	1	
DA-27		" (left 5) (T)	1		DA-68	401881003	Screw for DA-66	2	
DA-28		" (left 6) (V)	1		DA-69	106991001	Sector Plate Holder Guide (right)	1	
DA-29		" (left 7) (5 %)	1		DA-70	503750001	Sector Plate Holder Guide (left)	1	
DA-30		" (left 8) (F)	1		DA-71	106754003	Screw for DA-69, 70	6	
DA-31		" (left 9) (R)	1		DA-72	028350243	Spring Washer for DA-69, 70	6	
DA-32		" (left 10) (C)	1		DA-73	105090001	Steel Ball for DA-69, 70	2	
DA-33		" (left 11) (4 8)	1		DA-74	508576001	Sector Plate	1	
DA-34		" (left 12) (D)	1		DA-75	503588000	Sector Plate Pivot Wire	1	
DA-35		" (left 13) (E)	1		DA-76	103979002	Screw (A) for DA-74	2	
DA-36		" (left 14) (X)	1		DA-77	100137003	Screw (B) for DA-74	3	
DA-37		" (left 15) (3 #)	1		DA-78	500341001	Spring Washer for DA-77	3	
DA-38		" (left 16) (S)	1		DA-79	503589001	Type Bar Guide	1	
DA-39		" (left 17) (W)	1		DA-80	503590001	Type Bar Guide Lower Plate	1	
DA-40		" (left 18) (Z)	1		DA-81	106754001	Screw for DA-74	2	
DA-41		" (left 19) (2 @)	1		DA-82	508491001	Pin for DA-74	2	
DA-42		" (left 20) (A)	1						

KEY, BELL CRANK, SUB FRAME

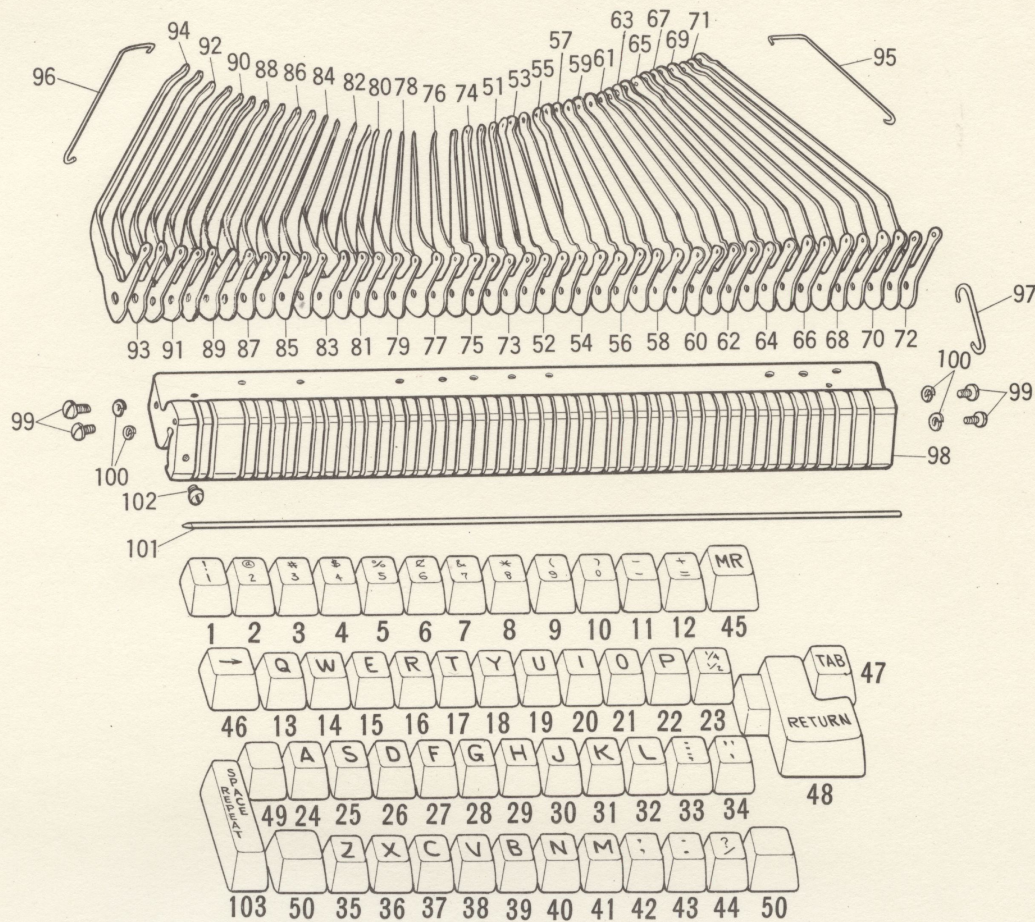


FIG. DB

REF.NO.	PART NO.	PART NAME	Q'TY	MEMO	REF.NO.	PART NO.	PART NAME	Q'TY	MEMO
DB-1		Key (1 /)	1		DB-52	510110001	Bell Crank (Right 2)	1	
DB-2		Key (2 @)	1		DB-53	510111001	" (Right 3)	1	
DB-3		Key (3 #)	1		DB-54	510112001	" (Right 4)	1	
DB-4		Key (4 \$)	1		DB-55	510113001	" (Right 5)	1	
DB-5		Key (5 %)	1		DB-56	510114001	" (Right 6)	1	
DB-6		Key (6 ¢)	1		DB-57	510115001	" (Right 7)	1	
DB-7		Key (7 &)	1		DB-58	510116001	" (Right 8)	1	
DB-8		Key (8 *)	1		DB-59	510117001	" (Right 9)	1	
DB-9		Key (9 (	1		DB-60	510118001	" (Right 10)	1	
DB-10		Key (0)	1		DB-61	510119001	" (Right 11)	1	
DB-11		Key (-)	1		DB-62	510120001	" (Right 12)	1	
DB-12		Key (= +)	1		DB-63	510121001	" (Right 13)	1	
DB-12-1	512869	Interchangeable Key (= +)	1		DB-64	510122001	" (Right 14)	1	
DB-13		Key (Q)	1		DB-65	510123001	" (Right 15)	1	
DB-14		Key (W)	1		DB-66	510124001	" (Right 16)	1	
DB-15		Key (E)	1		DB-67	510125001	" (Right 17)	1	
DB-16		Key (R)	1		DB-68	510126001	" (Right 18)	1	
DB-17		Key (T)	1		DB-69	510127001	" (Right 19)	1	
DB-18		Key (Y)	1		DB-70	510128001	" (Right 20)	1	
DB-19		Key (U)	1		DB-71	510129001	" (Right 21)	1	
DB-20		Key (I)	1		DB-72	512414001	" (Right 22)	1	
DB-21		Key (O)	1		DB-73	512777001	" (Left 1)	1	
DB-22		Key (P)	1		DB-74	510131001	" (Left 2)	1	
DB-23		Key (1/4)	1		DB-75	510132001	" (Left 3)	1	
DB-24		Key (A)	1		DB-76	510133001	" (Left 4)	1	
DB-25		Key (S)	1		DB-77	510134001	" (Left 5)	1	
DB-26		Key (D)	1		DB-78	510135001	" (Left 6)	1	
DB-27		Key (F)	1		DB-79	510136001	" (Left 7)	1	
DB-28		Key (G)	1		DB-80	510137001	" (Left 8)	1	
DB-29		Key (H)	1		DB-81	510138001	" (Left 9)	1	
DB-30		Key (J)	1		DB-82	510139001	" (Left 10)	1	
DB-31		Key (K)	1		DB-83	510140001	" (Left 11)	1	
DB-32		Key (L)	1		DB-84	510141001	" (Left 12)	1	
DB-33		Key (; :)	1		DB-85	510142001	" (Left 13)	1	
DB-34		Key (')	1		DB-86	510143001	" (Left 14)	1	
DB-35		Key (Z)	1		DB-87	510144001	" (Left 15)	1	
DB-36		Key (X)	1		DB-88	510145001	" (Left 16)	1	
DB-37		Key (C)	1		DB-89	510146001	" (Left 17)	1	
DB-38		Key (V)	1		DB-90	510147001	" (Left 18)	1	
DB-39		Key (B)	1		DB-91	510148001	" (Left 19)	1	
DB-40		Key (N)	1		DB-92	510149001	" (Left 20)	1	
DB-41		Key (M)	1		DB-93	510150001	" (Left 21)	1	
DB-42		Key (. ,)	1		DB-94	510151001	" (Left 22)	1	
DB-43		Key (. .)	1		DB-95	503009001	Type Bar Wire (Right)	22	
DB-44		Key (/ ?)	1		DB-96	503010001	Type Bar Wire (Left)	22	
DB-45	512735	Margin Release Key	1		DB-97	503011001	Bell Crank Wire	44	
DB-46	512731	Back Space Key	1		DB-98	513494000	Sub Frame (B)	1	
DB-47	512734	Tab Key for Full Electric	1		DB-99	101629001	Screw for DB-98	4	
DB-47-1		Tab Key For Full for Semi Electric	1		DB-100	028350243	Spring Washer for DB-99	4	
DB-48	512733	Carriage Return Key for Full Electric	1		DB-101	510720001	Pivot Wire	1	
DB-49	512730	Shift Lock Key	1		DB-102	106754J03	Set Screw for DB-101	1	
DB-50	512729	Shift Key	2		DB-103	512732	Space Repeat Key	1	
DB-51	510776001	Bell Crank (Right 1)	1						

KEY LEVER, KEY LEVER GUIDE

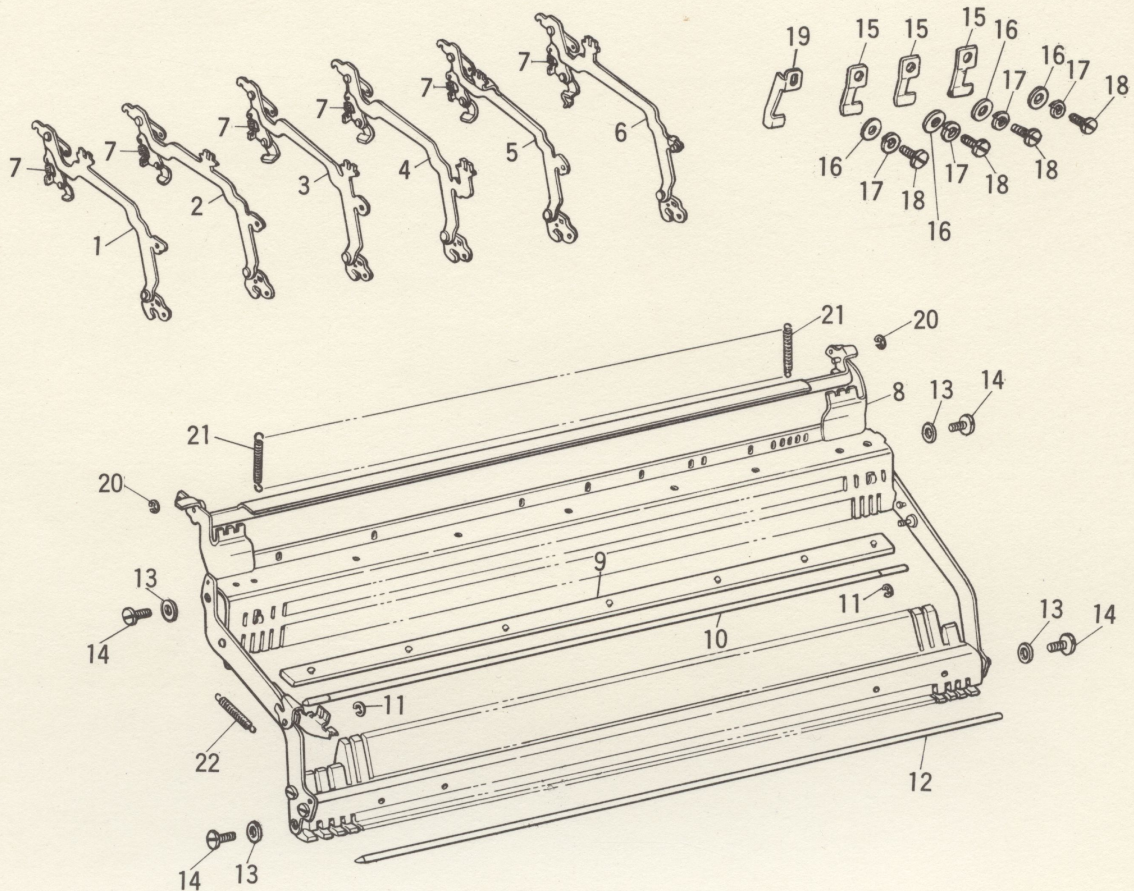


FIG. DC

REF.NO.	PART NO.	PART NAME	Q'TY	MEMO	REF.NO.	PART NO.	PART NAME	Q'TY	MEMO
DC-1	513101001	Key Lever Unit (1st Row)			DC-10	510720001	Pivot Wire (A) for DC-8	1	
DC-2	513106001	" (2nd Row)			DC-11	500379001	Snap Ring for DC-10	2	
DC-3	513108001	" (3rd Row)			DC-12	510669001	Pivot Wire (B) for DC-8	1	
DC-4	513110001	" (4th Row)			DC-13	510909001	Washer for DC-14	4	
DC-5	513112001	" (1 L) Unit	1		DC-14	105123002	Screw for DC-8	4	
DC-6	513114001	Key Lever Unit Repeat (1st Row)			DC-15	513431001	Repeat Key Lever Stopper		
DC-6-1	513121001	" (2nd Row)			DC-16	503090001	Washer for DC-15, 19		
DC-6-2	513123001	" (3rd Row)			DC-17	028630243	Spring Washer for DC-18		
DC-6-3	513125001	" (4th Row)			DC-18	500654001	Screw for DC-15		
DC-7	510052001	Spring for DC-1, 2, 3, 4, 5, 6	44		DC-19	513432001	Space Repeat key Lever Stopper	1	
DC-8	513127001	Key Lever Guide Assembly	1		DC-20	048025346	Snap Ring for DC-8	2	
DC-9	510097001	Cushion Rubber for DC-8	1		DC-21	513666001	Spring for DC-1, 2, 3, 4, 5, 6	44	

DOG SHELF HOLDER UNIT, SNATCH ROLL

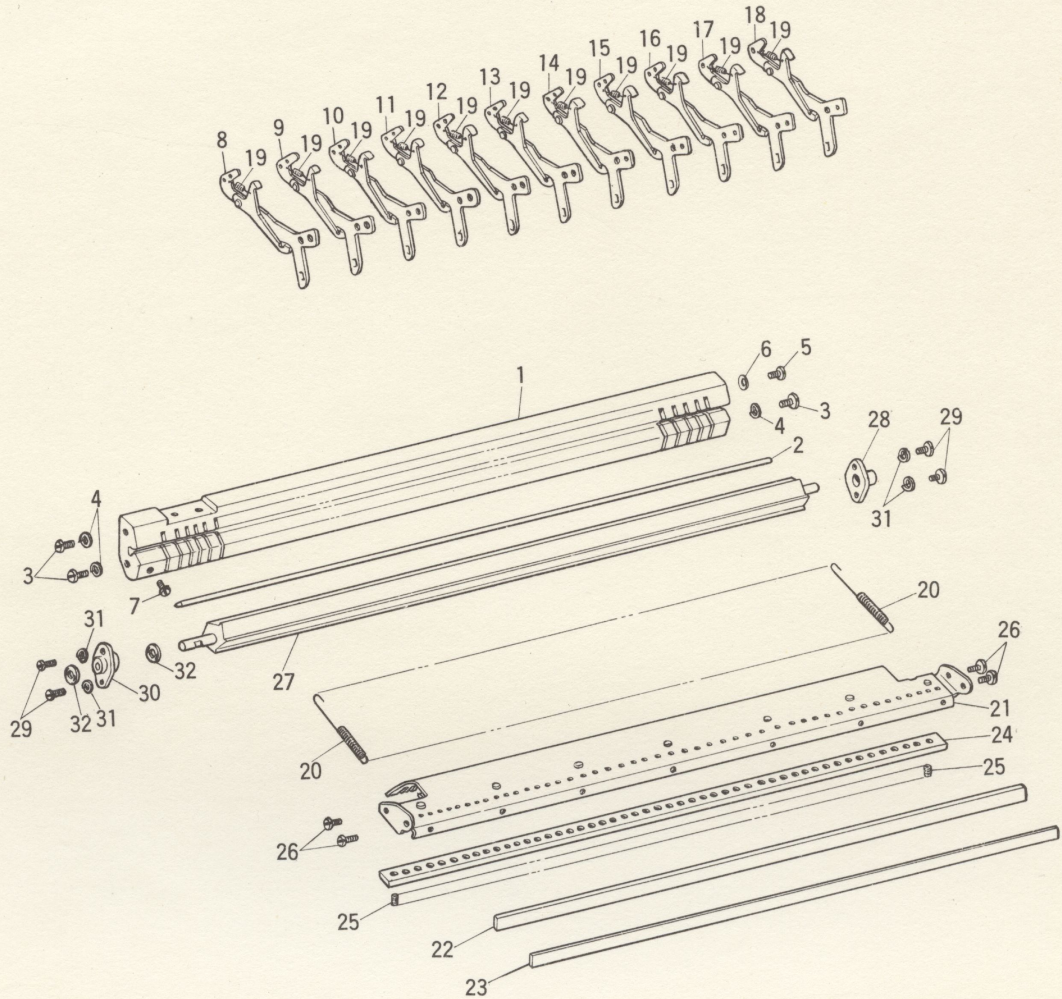


FIG. DD

REF.NO.	PART NO.	PART NAME	Q'TY	MEMO	REF.NO.	PART NO.	PART NAME	Q'TY	MEMO
DD- 1	513433000	Sub Frame (A)	1		DD-18	513456001	Dog Shelf Holder Unit(right & left13)	2	
DD- 2	510720001	Pivot Wire for DD-1	1		DD-19	513667001	Spring (A) for DD-8,9,10,11,12,13,14,15,16,17,18	44	
DD- 3	101629001	Screw for DD-1	3		DD-20	513483001	Spring (B)	44	
DD- 4	028350243	Spring Washer for DD-3	3		DD-21~25	(513484001)	Dog Shelf Holder Assembly	1	
DD- 5	100257006	Screw for DD-1	1		DD-21	513485001	Dog Shelf Stopper Unit	1	
DD- 6	500341001	Spring Washer for DD-5	1		DD-22	513488001	Cushion Rubber for DD-21	1	
DD- 7	106754003	Screw for DD-1	1		DD-23	513489001	Cushion Plate for DD-22	1	
DD- 8	513434001	Dog Shelf Holder Unit (right & left 1,2,14)	6		DD-24	513490001	Rubber for DD-21	1	
DD- 9	513438001	" (" 3,4,15)	6		DD-25	513491001	Adjusting Screw for DD-21	49	
DD-10	513440001	" (" 5,16)	4		DD-26	001679413	Screw for DD-21	4	
DD-11	513442001	" (" 6,17)	4		DD-27	510071001	Snatch Roll for Full Electric	1	
DD-12	513444001	" (" 7,18)	4		DD-27-1	511080001	Snatch Roll for Semi Electric	1	
DD-13	513446001	" (" 8,19)	4		DD-28	510072001	Bush (right) for DD-27	1	
DD-14	513448001	" (" 9,20)	4		DD-29	500654001	Screw for DD-31	4	
DD-15	513450001	" (" 10,21)	4		DD-30	510073001	Bush (left) for DD-27	1	
DD-16	513452001	" (" 11,22)	4		DD-31	028630243	Spring Washer for DD-28, 30	4	
DD-17	513454001	" (" 12)	2		DD-32	513932000	Vinyl Washer for DD-30	2	

SHIFT MECHANISM

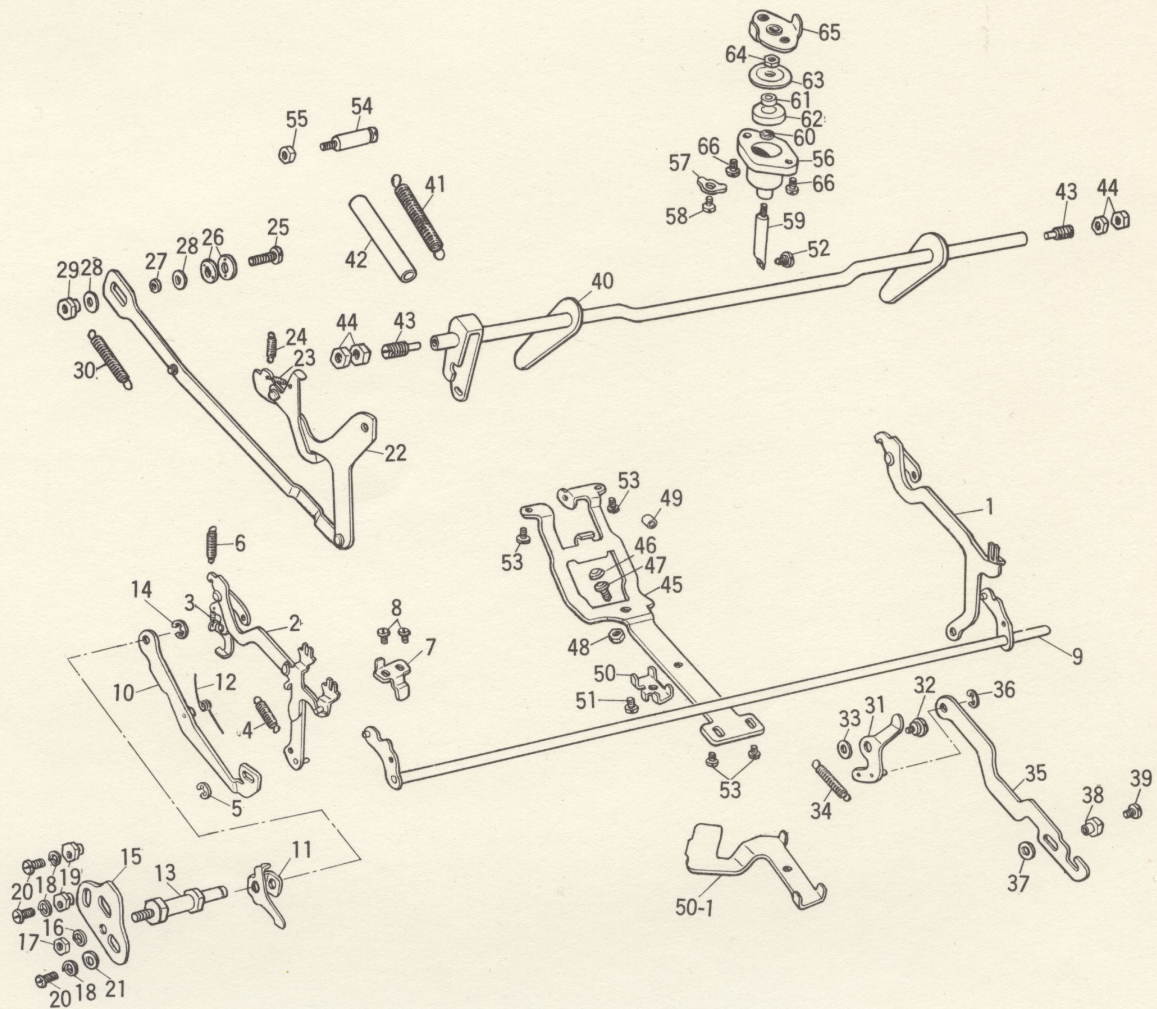


FIG. DE

REF.NO.	PART NO.	PART NAME	Q'TY	MEMO	REF.NO.	PART NO.	PART NAME	Q'TY	MEMO
DE-1	513496001	Shift Key Lever Unit (right)	1		DE-36	048025346	Snap Ring for DE-35	1	
DE-2	513499001	" (left)	1		DE-37	503092001	Washer for DE-35	1	
DE-3	515232001	Spring (A) for DE-2	1		DE-38	503082001	Eccentric Collar for DE-39	1	
DE-4	506155001	Spring (B) for DE-2	1		DE-39	106754003	Screw for DE-35	1	
DE-5	048025346	Snap Ring for DE-2	1		DE-40	503604001	Shift Link Rod	1	
DE-6	550255001	Spring (C) for DE-2	1		DE-41	510104001	Spring for DE-40	1	
DE-7	513507001	Shift Lock Plate	1		DE-42	510808001	Vinyl Tube for DE-41	1	
DE-8	401881003	Screw for DE-7	2		DE-43	503040001	Center Screw for DE-40	2	
DE-9	513504001	Driving Rod for DE-1, 2	1		DE-44	402704001	Nut for DE-43	4	
DE-10	513508001	Driving Plate for DE-11	1		DE-45-51	(510913001)	Shift Stopper Holder Assembly	1	
DE-11	513510001	Shift Auto Locker Plate	1		DE-45-51-I	(513172001)	" for France	1	
DE-12	513511001	Spring for DE-11	1		DE-45	510899001	Shift Stopper Holder	1	
DE-13	513512001	Axle for DE-11	1		DE-46	512422001	Shift Stopper Rubber	1	
DE-14	048030346	Snap Ring for DE-13	1		DE-47	512423001	Shift Stopper Screw	1	
DE-15	510252001	Holder for DE-11	1		DE-48	402230001	Nut for DE-47	1	
DE-16	101966001	Spring Washer for DE-13	1		DE-49	510541001	Cushion Rubber for DE-45	1	
DE-17	110161001	Nut for DE-13	1		DE-50	510894001	Hook for DE-41	1	
DE-18	028350243	Spring Washer for DE-20	3		DE-50-1	513170001	Hook for DE-41 (France)	1	
DE-19	510065001	Eccentric Collar for DE-20	2		DE-51	401881003	Screw for DE-50	1	
DE-20	100137003	Screw for DE-15	3		DE-52	511033001	Screw for DE-56	1	
DE-21	400806002	Washer for DE-20	1		DE-53	106754003	Screw for DE-45	4	
DE-22	513513001	Dog Shelf Holder (S) Unit	1		DE-54	510105001	Axle for DE-41	1	
DE-23	513668001	Spring for Shift Key Lever	1		DE-55	106129001	Nut for DE-54	1	
DE-24	511091001	Spring for DE-22	1		DE-56-66	(512564001)	Shock Absorber Complete	1	
DE-25	107732001	Screw for DE-22	1		DE-56	512554001	Cylinder	1	
DE-26	511128001	Washer for DE-25	2		DE-57	512565001	Control Plate for DE-56	1	
DE-27	510903001	Vinyl Washer for DE-25	1		DE-58	009660613	Screw for DE-57	1	
DE-28	510904001	Vinyl Washer for DE-22	1		DE-59	512555001	Shaft for DE-56	1	
DE-29	510779001	Nut for DE-25	1		DE-60	503092001	Washer for DE-56	1	
DE-30	510069001	Spring for DE-22	1		DE-61	512556001	Collar for DE-62, 63	1	
DE-31	510264001	Shift Front Lock Plate	1		DE-62	512557001	Packing for DE-59	1	
DE-32	503025001	Screw for DE-31	1		DE-63	512558001	Piston for DE-59	1	
DE-33	503092001	Washer for DE-31	1		DE-64	500683001	Nut for DE-59	1	
DE-34	500254001	Spring for DE-31	1		DE-65	512560001	Cylinder Holder	1	
DE-35	510266001	Shift Front Lock Arm	1		DE-66	401881003	Screw for DE-56	2	

MARGIN RELEASE, TABULATOR, GOVERNER

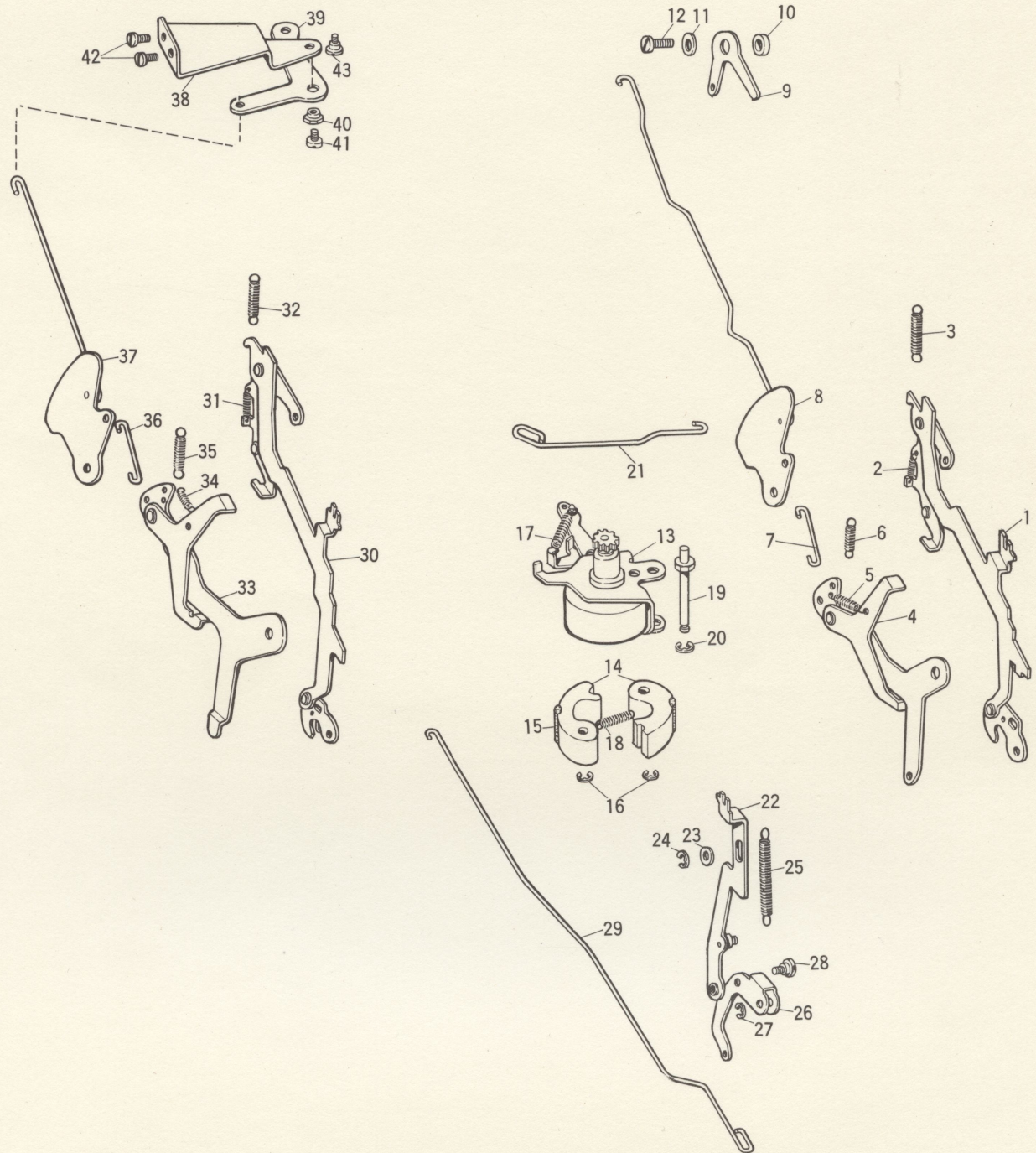


FIG. DF

REF.NO.	PART NO.	PART NAME	Q'TY	MEMO	REF.NO.	PART NO.	PART NAME	Q'TY	MEMO
DF-1	513566001	Tab Key Lever Unit	1		DF-21	507014001	Governor Wire for DF-13	1	
DF-2	510052001	Spring for Tab Key Lever	1		DF-22	510272001	Margin Release Key Lever Unit	1	
DF-3	506155001	Spring for DF-1	1		DF-23	503092001	Washer for DF-22	1	
DF-4	513550001	Dog Shelf Holder (RT, T) Unit	1		DF-24	048025346	Snap Ring for DF-22	1	
DF-5	513668001	Spring (A) for DF-4	1		DF-25	511049001	Spring for DF-22	1	
DF-6	511091001	Spring (B) for DF-4	1		DF-26	513518001	Margin Release Crank	1	
DF-7	510774001	Tab Bell Crank Wire	1		DF-27	048020346	Snap Ring for DF-26	1	
DF-8	513638001	Tab Bell Crank Unit	1		DF-28	507590001	Screw for DF-26	1	
DF-9	503691001	Tab Crank (rear)	1		DF-29	513519001	Margin Release Wire	1	
DF-10	508287001	Stud Collar for DF-9	1		DF-30	513512001	Back Space Key Lever Unit	1	
DF-11	503092001	Washer for DF-12	1		DF-31	510052001	Spring (A) for DF-30	1	
DF-12	402984002	Screw for DF-9	1		DF-32	506155001	Spring (B) for DF-30	1	
DF-13-18 (511105001)		Governor Assembly, Pica	1		DF-33	513524001	Dog Shelf Holder (B, S) Unit	1	
DF-13-1-18 (511102001)		" " " " Elite	1		DF-34	513668001	Spring (A) for DF-33	1	
DF-13	511106001	Governor, Pica	1		DF-35	511091001	Spring (B) for DF-33	1	
DF-13-1	511103001	" " " " Elite	1		DF-36	510281001	Back Space Wire (front)	1	
DF-14	511118001	Friction Weight for DF-13	2		DF-37	513528001	Back Space Crank (front)	1	
DF-15	511114001	Rubbing Colk for DF-14	2		DF-38	510285001	Back Space Crank (rear) Holder	1	
DF-16	048020346	Snap Ring for DF-14	2		DF-39	510284001	Back Space Crank (rear)	1	
DF-17	511198001	Spring for DF-13	1		DF-40	503082001	Eccentric Collar for DF-39	1	
DF-17-1	507007001	Spring for DF-13-1	1		DF-41	106754001	Screw for DF-40	1	
DF-18	500680001	Spring for DF-14	1		DF-42	400298002	Screw for DF-38	2	
DF-19	507013001	Axle for DF-19	1		DF-43	513923001	Stud Screw for DF-39	1	
DF-20	048030346	Snap Ring for DF-13	1						

SPACE, HALF SPACE

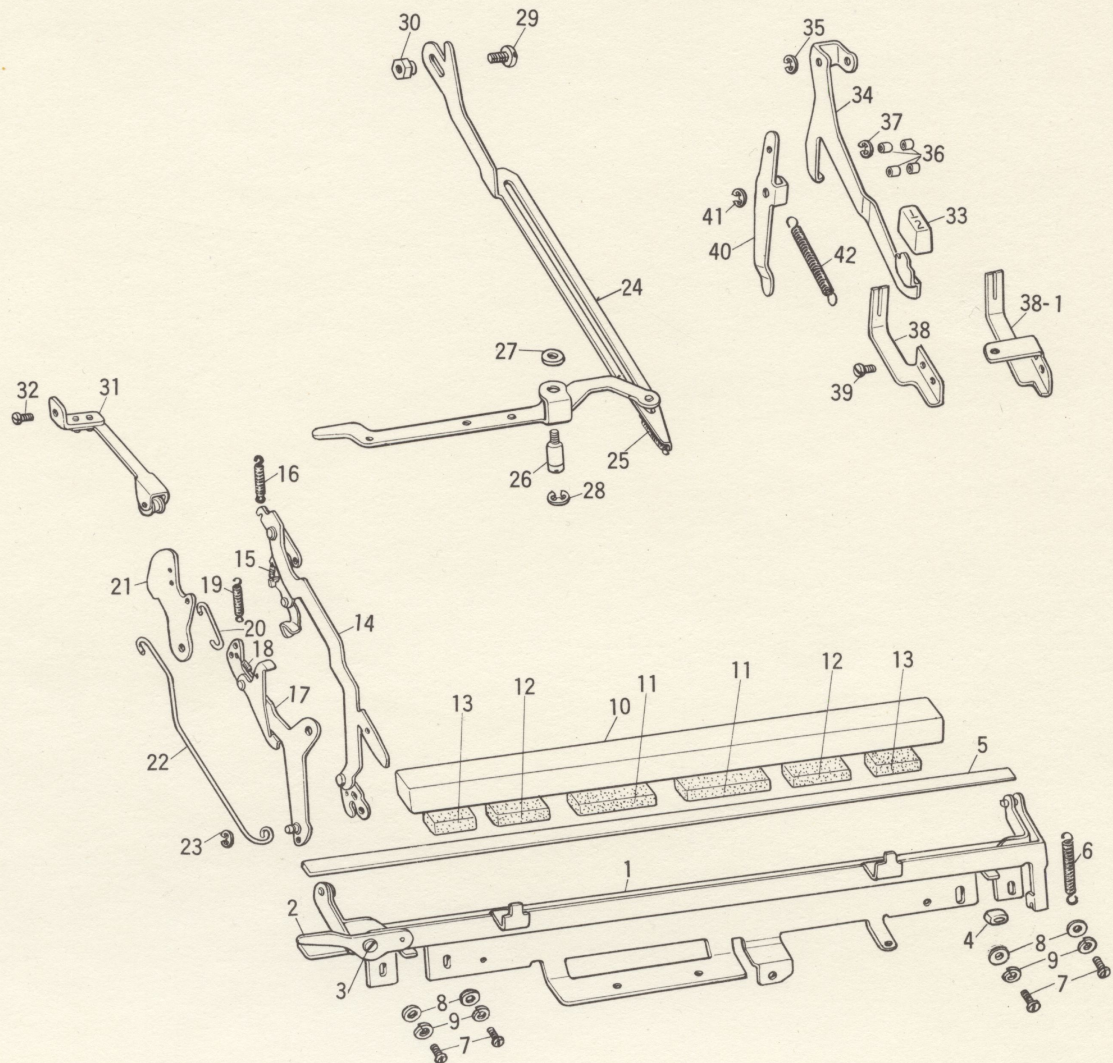


FIG. DG

REF.NO.	PART NO.	PART NAME	Q'TY	MEMO	REF.NO.	PART NO.	PART NAME	Q'TY	MEMO
DG-1~6	(513530001)	Space Bar Holder Assembly	1		DG-22	513544001	Space Wire	1	
DG-1	513531001	Space Bar Holder Unit	1		DG-23	048025346	Snap Ring for DG-22	1	
DG-2	513537001	Space Key Lever Operating Plate	1		DG-24	510303001	Space Bar Connecting Link Unit	1	
DG-3	402281002	Screw for DG-1	1		DG-25	504669001	Spring for DG-24	1	
DG-4	500315001	Cushion Rubber for DG-1	1		DG-26	503067001	Axle for DG-24	1	
DG-5	513535001	Key Lver Cushion Rubber	1		DG-27	503092001	Washer for DG-24	1	
DG-6	550203001	Spring for DG-1	1		DG-28	048030346	Snap Ring for DG-26	1	
DG-7	106754003	Screw for DG-1	4		DG-29	401881003	Screw for DG-24	1	
DG-8	503092001	Washer for DG-7	4		DG-30	512426001	Nut for DG-29	1	
DG-9	028350143	Spring Washer for DG-7	4		DG-31	513545001	Brake for DG-21	1	
DG-10	510074	Space Bar	1		DG-32	001679413	Screw for DG-31	1	
DG-10-1	512736	Space Bar for M711, M713	1		DG-33	510082	Half Space Key	1	
DG-11	510833001	Sound Absorbent (A) for DG-10	2		DG-34	510308001	Half Space Key Lever	1	
DG-12	510834001	" (B) "	2		DG-35	048030346	Snap Ring for DG-34	1	
DG-13	510835001	" (C) "	2		DG-36	500336001	Cushion Rubber for DG-34	4	
DG-14	513538001	Space Key Lever Unit (R.P.)	1		DG-37	048015346	Snap Ring for DG-36	1	
DG-15	510052001	Spring (A) for DG-14	1		DG-38	510678001	Half Space Key Lever Guide	1	
DG-16	513430001	" (B) for DG-14	1		DG-38-1	512332001	" " for	1	
DG-17	513541001	Dog Shelf Holder (S,P) Unit	1				S1013D, 1010D, 1003D		
DG-18	513669001	Spring (A) for DG-17	1		DG-39	402232002	Screw for DG-38	1	
DG-19	511091001	" (B) for DG-17	1		DG-40	510309001	Half Space Crank	1	
DG-20	510300001	Space Bell Crank Wire	1		DG-41	048025346	Snap Ring for DG-40	1	
DG-21	513582001	Space Bell Crank	1		DG-42	504672001	Spring for DG-40	1	

RETURN, RETURN DRUM

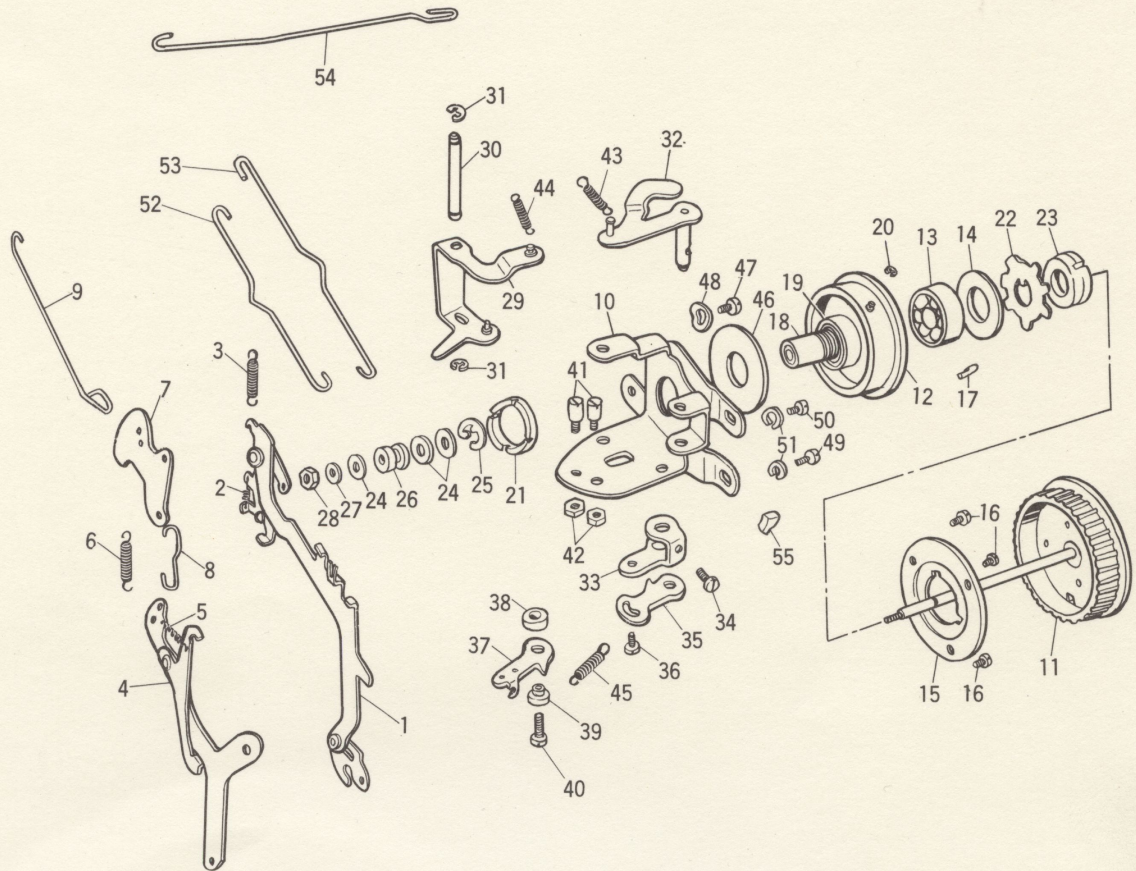


FIG. DH.

REF.NO.	PART NO.	PART NAME	Q'TY	MEMO	REF.NO.	PART NO.	PART NAME	Q'TY	MEMO
DH-1	513548001	Return Key Lever Unit	1		DH-28	106129001	Nut for DH-11	1	
DH-2	510052001	Spring (A) for DH-1	1		DH-29	510602001	Driving Arm for DH-10	1	
DH-3	506155001	Spring (B) for DH-1	1		DH-30	510605001	Axle for DH-29	1	
DH-4	513550001	Dog Shelf Holder (RT. T) Unit	1		DH-31	048030346	Snap Ring for DH-30	2	
DH-5	513668001	Spring (A) for DH-4	1		DH-32	510606001	Return Link Unit	1	
DH-6	511091001	Spring (B) for DH-4	1		DH-33	510610001	Stopper Holder for DH-35	1	
DH-7	510869001	Bell Crank	1		DH-34	105123002	Screw for DH-33	1	
DH-8	513553001	Return Bell Crank Wire	1		DH-35	510611001	Stopper for DH-37	1	
DH-9	513554001	Return Operating Wire	1		DH-36	401881003	Screw for DH-35	1	
DH-10-46	(510581001)	Return Drum Complete	1		DH-37	510612001	Return Pawl	1	
DH-10	510582001	Return Base Spot Unit	1		DH-38	503080001	Collar for DH-37	1	
DH-11	510090001	Timing Pulley (rear) Unit	1		DH-39	503087001	Stud Collar for DH-37	1	
DH-12	510579000	Return Drum	1		DH-40	100287001	Screw for DH-37	1	
DH-13	108156001	Return Drum Element (Bearing)	1		DH-41	501023001	Eccentric Screw for DH-10	2	
DH-14	510590000	Oil Seal	1		DH-42	500296001	Nut for DH-41	2	
DH-15	510591001	Return Drum Pawl	1		DH-43	512195001	Spring for DH-29	1	
DH-16	500750001	Screw for DH-15	3		DH-44	510614001	Spring for DH-29 & 30	1	
DH-17	047210642	Spring Pin for DH-15	1		DH-45	500685001	Spring for DH-37	1	
DH-18	510672001	Return Drum Bush Unit	1		DH-46	511081001	Washer for DH-18	1	
DH-19	510592001	Return Drum Spring Unit	1		DH-47	100257006	Screw (A) for DH-10	1	
DH-20	048015346	Snap Ring for DH-12	1		DH-48	500341001	Spring Washer for DH-10	1	
DH-21	510594001	Nut for DH-18	1		DH-49	105123002	Screw (B) for DH-10	1	
DH-22	510595001	Stopper for DH-23	1		DH-50	001679413	Screw (C) for DH-11	1	
DH-23	510596001	Nut for DH-12	1		DH-51	028350243	Spring Washer for DH-49 & 50	2	
DH-24	510598001	Washer for DH-11	3		DH-52	510615001	Return & Tab Connecting Wire	1	
DH-25	048040346	Snap Ring for DH-11	1		DH-53	510616001	Return Release Wire (front)	1	
DH-26	510599001	Return Crutch	1		DH-54	510617001	" (rear)	1	
DH-27	510600001	Washer for DH-11	1		DH-55	510840001	Stopper Rubber for DH-12	1	

TAB & TAB SET CLEAR

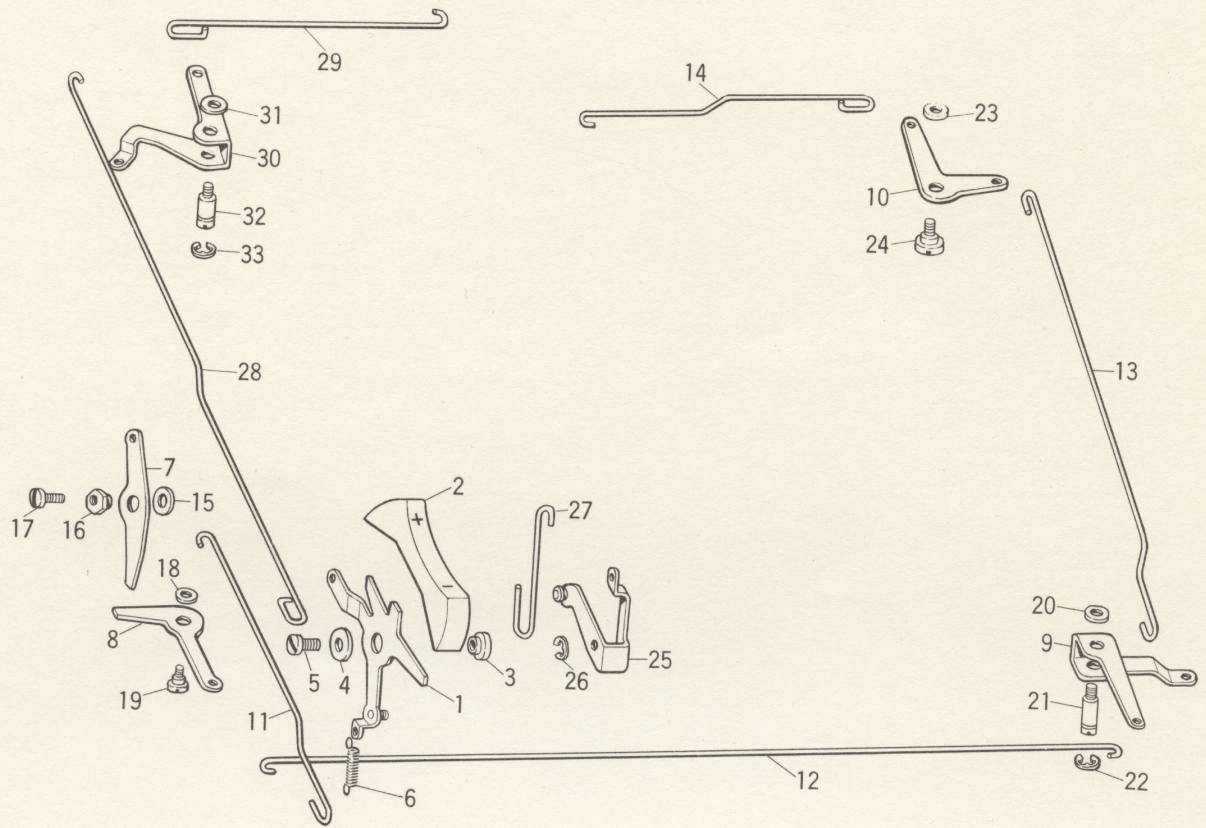


FIG. DI

REF.NO.	PART NO.	PART NAME	Q'TY	MEMO	REF.NO.	PART NO.	PART NAME	Q'TY	MEMO
DI-1	512333001	Tab Set Clear Key Lever Unit	1		DI-17	402849002	Screw for DI-7	1	
DI-2	503693	Tab Set Clear Key (S, C)	1		DI-18	503092001	Washer for DI-8	1	
DI-2-1	505164	" (+, -)	1		DI-19	503025001	Stud Screw for DI-8	1	
DI-3	510046001	Stud Collar for DI-1	1		DI-20	503092001	Washer for DI-9	1	
DI-4	503092001	Washer for DI-1	1		DI-21	503067001	Axle for DI-9	1	
DI-5	502849002	Screw for DI-1	1		DI-22	048030346	Snap Ring for DI-21	1	
DI-6	501406001	Spring for DI-1	1		DI-23	510107001	Collar for DI-10	1	
DI-7	510320001	Tab Set Crank (1)	1		DI-24	503025001	Stud Screw for DI-10	1	
DI-8	510321001	Tab Set Crank (2)	1		DI-25	513555001	Tab Clear Crank (front) Unit	1	
DI-9	510322001	Tab Set Crank (3)	1		DI-26	048025346	Snap Ring for DI-25	1	
DI-10	510323001	Tab Set Crank (4)	1		DI-27	510328001	Tab Clear Wire (front)	1	
DI-11	510324001	Tab Set Wire (1)	1		DI-28	513557001	Tab Clear Wire (middle)	1	
DI-12	510325001	Tab Set Wire (2)	1		DI-29	503020001	Tab Clear Wire (rear)	1	
DI-13	510326001	Tab Set Wire (3)	1		DI-30	510332001	Tab Clear Crank (rear)	1	
DI-14	510327001	Tab Set Wire (4)	1		DI-31	503092001	Washer for DI-30	1	
DI-15	510107001	Collar for DI-7	1		DI-32	503067001	Axle for DI-30	1	
DI-16	503082001	Eccentric Axle for DI-7	1		DI-33	048030346	Snap Ring for DI-32	1	

RIBBON FEED MECHANISM

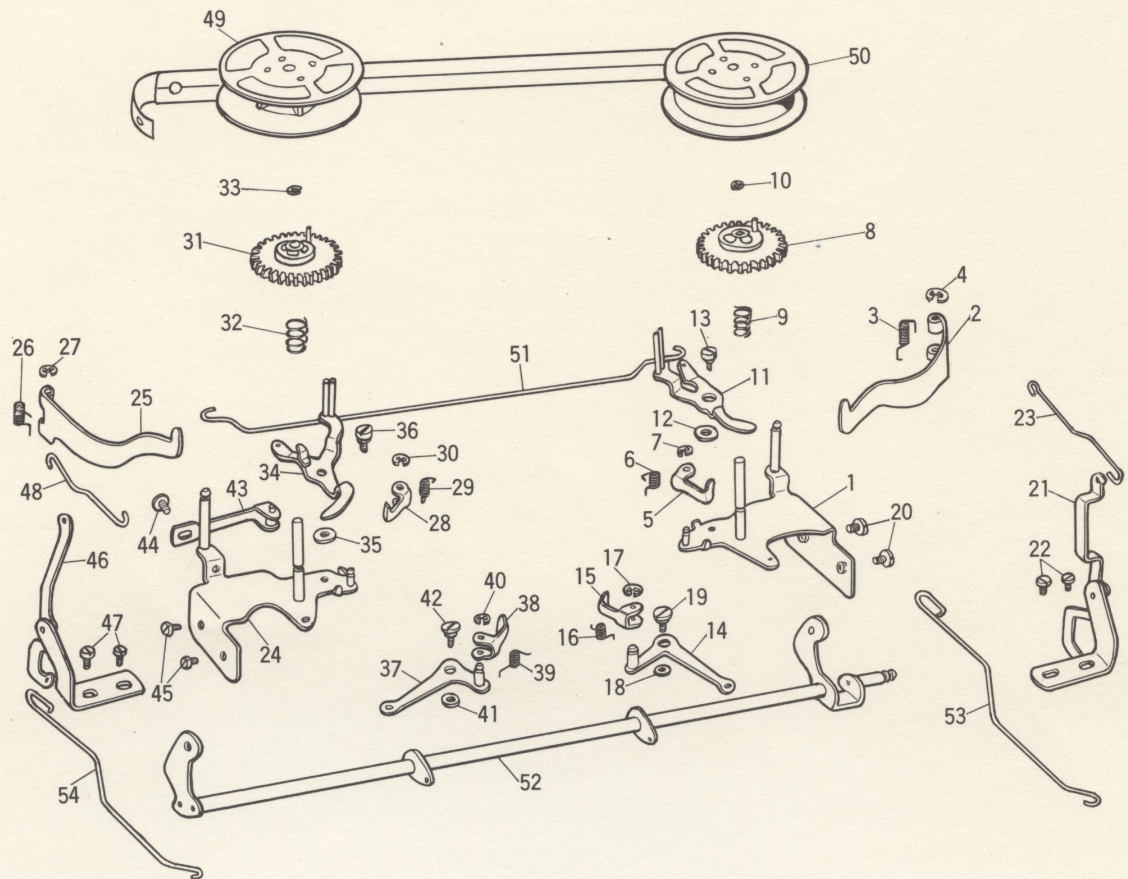


FIG. DJ

REF.NO.	PART. NO.	PART NAME	Q'TY	MEMO	REF.NO.	PART. NO.	PART NAME	Q'TY	MEMO
DJ-1~19	(512521001)	Ribbon Spool Holder Right Complete	1		DJ-27	500379001	Snap Ring for DJ-24	1	
DJ-1	588167001	Ribbon Spool Holder (right) Unit	1		DJ-28	500374001	Ribbon Stopper Pawl (left)	1	
DJ-2	505472001	Ribbon Holding Plate (right)	1		DJ-29	500711001	Spring for DJ-28	1	
DJ-3	507491001	Spring for DJ-2	1		DJ-30	500379001	Snap Ring for DJ-24	1	
DJ-4	500379001	Snap Ring for DJ-2	1		DJ-31	504598001	Ribbon Ratchet Wheel (left)	1	
DJ-5	500373001	Backlash Stopper Pawl (right)	1		DJ-32	512552001	Spring for DJ-31	1	
DJ-6	500710001	Spring for DJ-5	1		DJ-33	500357001	Snap Ring for DJ-24	1	
DJ-7	500379001	Snap Ring for DJ-1	1		DJ-34	506179001	Ribbon Releaser Left Unit	1	
DJ-8	504597001	Ribbon Ratchet Wheel (right)	1		DJ-35	500986001	Washer for DJ-34	1	
DJ-9	512552001	Spring for DJ-8	1		DJ-36	500283001	Stud Screw for DJ-34	1	
DJ-10	500357001	Snap Ring for DJ-8	1		DJ-37	512523001	Operating Lever for DJ-38	1	
DJ-11	506181001	Ribbon Releaser (right) Unit	1		DJ-38	500372001	Ribbon Feed Pawl (left)	1	
DJ-12	500986001	Washer for DJ-13	1		DJ-39	500376001	Spring for DJ-38	1	
DJ-13	500283001	Stud Screw for DJ-11	1		DJ-40	500379001	Stop Ring for DJ-37	1	
DJ-14	512523001	Operating Lever for DJ-15	1		DJ-41	500986001	Washer for DJ-37	1	
DJ-15	500371001	Ribbon Feed Pawl (right)	1		DJ-42	500283001	Stud Screw for DJ-37	1	
DJ-16	500378001	Spring for DJ-15	1		DJ-43	505457001	Ribbon Relaser Holding Spring	1	
DJ-17	500379001	Snap Ring for DJ-14	1		DJ-44	402281002	Screw for DJ-24	1	
DJ-18	500986001	Washer for DJ-14	1		DJ-45	401881003	Screw for DJ-24	2	
DJ-19	500283001	Stud Screw for DJ-14	1		DJ-46	513587001	Ribbon Feed Lever (left) Unit	1	
DJ-20	401881003	Screw for DJ-1	2		DJ-47	401881003	Screw for DJ-46	2	
DJ-21	513583001	Ribbon Feed Lever (right) Unit	1		DJ-48	512525001	Ribbon Feed Wire (left upper)	1	
DJ-22	401881003	Screw for DJ-21	2		DJ-49	500725001	Ribbon Spool	1	
DJ-23	512524001	Ribbon Feed Wire (right upper)	1		DJ-50	504594001	Ribbon red/black with Ribbon Spool Unit	1	
DJ-24~44	(512522001)	Ribbon Spool Holder Left Complete	1		DJ-51	505198001	Ribbon Change Wire	1	
DJ-24	588168001	Ribbon Spool Holder (left) Unit	1		DJ-52	513558001	Ribbon Operating Rod	1	
DJ-25	505473001	Ribbon Holding Plate (left)	1		DJ-53	513563001	Ribbon Feed Wire (right lower)	1	
DJ-26	507492001	Spring for DJ-25	1		DJ-54	513564001	" (left lower)	1	

COLOR CHANGE, CARD HOLDER

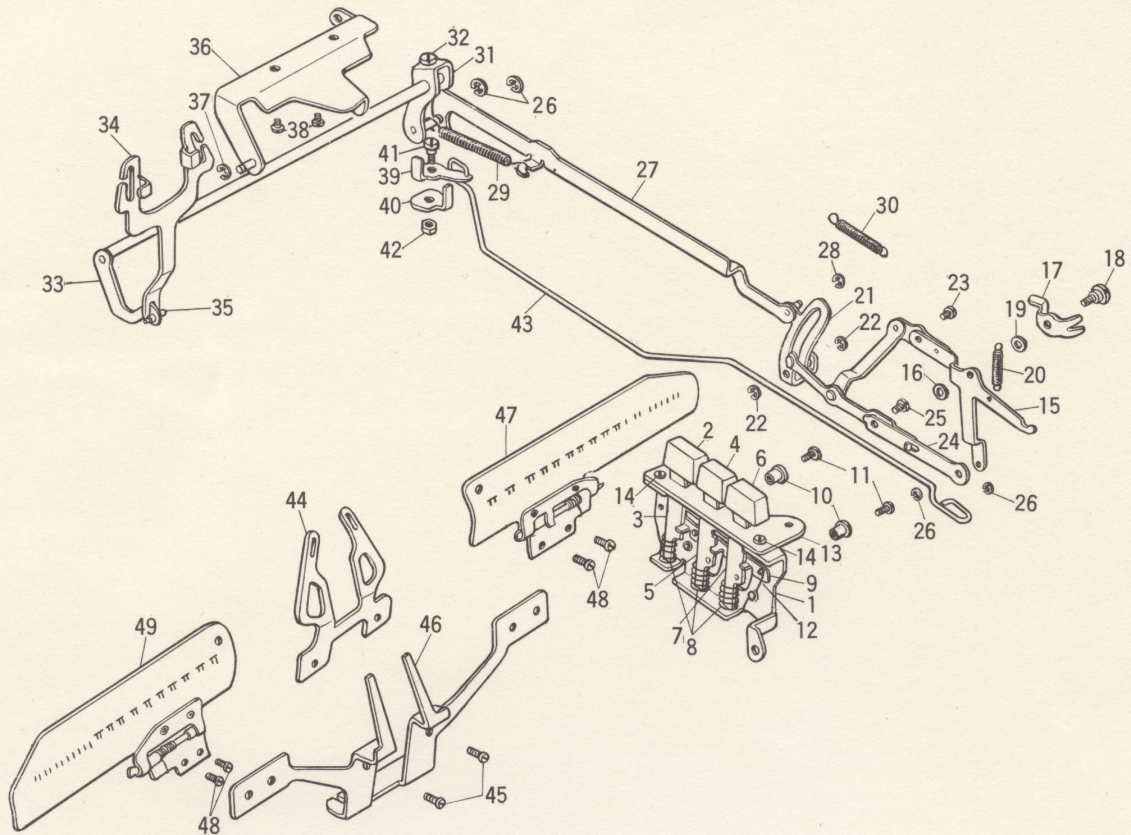


FIG. DK

REF.NO.	PART NO.	PART NAME	Q'TY	MEMO	REF.NO.	PART NO.	PART NAME	Q'TY	MEMO
DK-1~20	(510555001)	Color Change Button Unit	1		DK-28	048020346	Snap Ring for DK-27	1	
DK-1	510556001	Color Change Button Base	1		DK-29	511006001	Spring for DK-27	1	
DK-2	503650001	Color Change Button, (Stencil)	1		DK-30	503158001	Spring for DK-27	1	
DK-3	510559001	Lever for DK-2	1		DK-31	510570001	Ribbon Vibrator Link (front)	1	
DK-4	503650003	Color Change Button, Black	1		DK-32	504601001	Screw for DK-31	1	
DK-5	504005001	Lever for DK-4	1		DK-33~35	(503668001)	Ribbon Vibrator Link (rear) Assembly	1	
DK-6	503650002	Color Change Button, Red	1		DK-36	503669001	Ribbon Vibrator Link (rear) Unit	1	
DK-7	504005001	Lever for DK-6	1		DK-34	503671001	Ribbon Vibrator	1	
DK-8	510763001	Spring for DK-3, 5, 7	3		DK-35	503046001	Pin for DK-34	1	
DK-9	510560001	Lever Stopper for DK-1	1		DK-36	512563001	Shock Absorb Holding Plate	1	
DK-10	501028001	Stud Collar for DK-1	2		DK-37	048025346	Snap Ring for DK-36	1	
DK-11	403863001	Screw for DK-1	2		DK-38	401881003	Screw for DK-36	2	
DK-12	503007001	Spring for DK-9	1		DK-39	510571001	Color Change Stopper for Black	1	
DK-13	512311001	Guide plate for DK-1	1		DK-40	511021001	Color Change Stopper for Red	1	
DK-14	402281002	Screw for DK-13	2		DK-41	503025001	Stud Screw for DK-39	1	
DK-15	512532001	Color Change Lever	1		DK-42	402230001	Nut for DK-41	1	
DK-16	500986001	Washer for DK-15	1		DK-43	510572001	Color Change Wire	1	
DK-17	512527001	Stopper for DK-15	1		DK-44~49	(504619001)	Card Holder Assembly Pica	1	
DK-18	512528001	Stud Screw for DK-17	1		DK-44~49-1	(504639001)	" Elite	1	
DK-19	109529001	Washer for DK-17	1		DK-44	503675001	Card Holder	1	
DK-20	500611001	Spring for DK-15	1		DK-45	402281002	Screw for DK-44	2	
DK-21	513631001	Ribbon Vibrator Driving Controller Unit	1		DK-46	503676001	Ribbon Vibrator Guide	1	
DK-22	048025346	Snap Ring for DK-21	2		DK-47	504620001	Paper Mater (right) Unit Pica	1	
DK-23	505165001	Screw for DK-15	1		DK-47-1	504640001	" Elite	1	
DK-24	510567001	Link for DK-21	1		DK-48	504251001	Screw for DK-47, 49	4	
DK-25	505165001	Screw for DK-21	1		DK-49	504626001	Paper Mater (left) Unit Pica	1	
DK-26	048025346	Snap Ring for DK-24, 27	4		DK-49-1	504642001	" Elite	1	
DK-27	510568001	Ribbon Vibrator Motivator Link	1						

TOUCH & COPY CONTROL

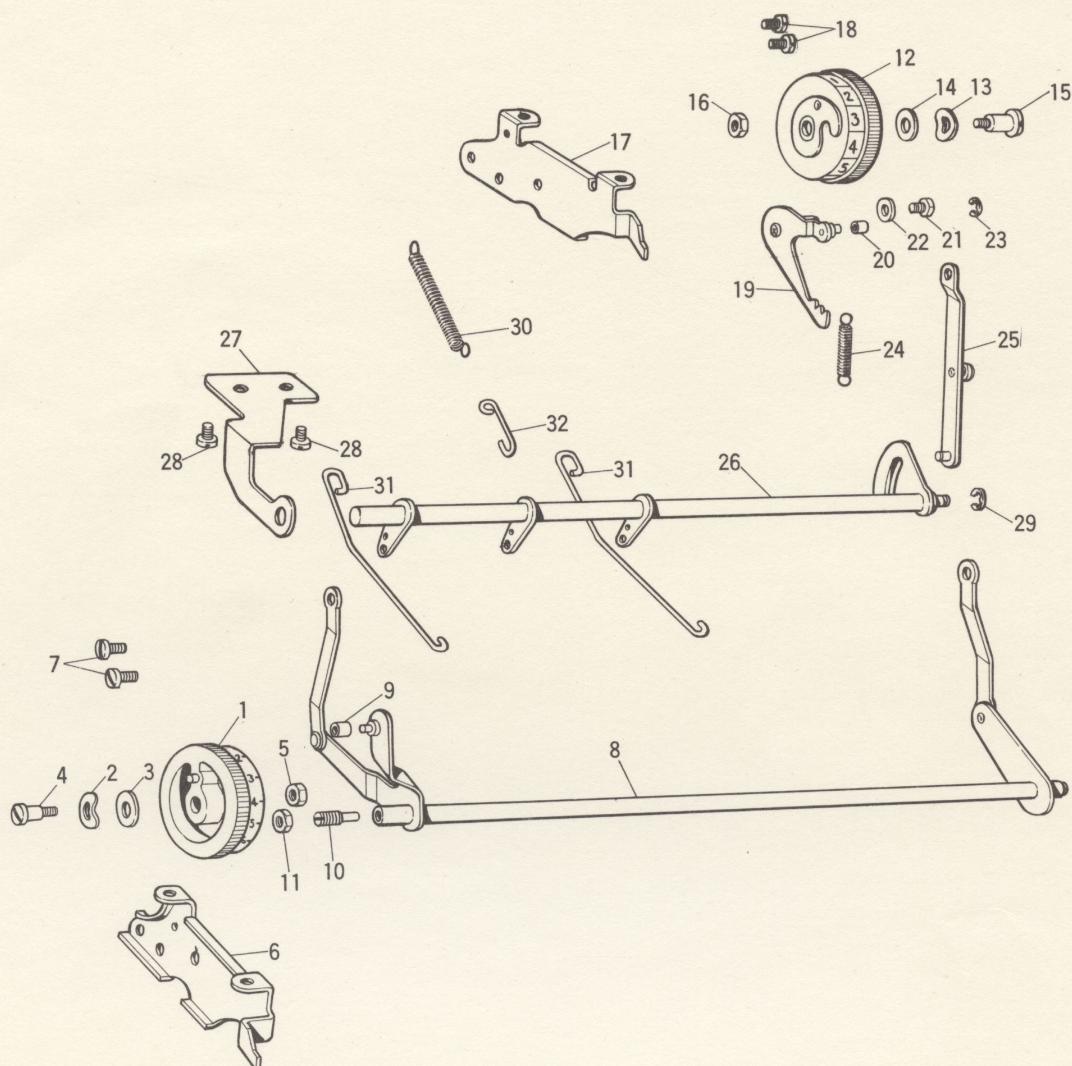


FIG. DL

REF.NO.	PART NO.	PART NAME	Q'TY	MEMO	REF.NO.	PART NO.	PART NAME	Q'TY	MEMO
DL- 1	512312	Touch Control Dial	1		DL-16	106129001	Nut for DL-12	1	
DL- 1-1	512747	Touch Control Dial for M711, 713	1		DL-17	512754001	Stopper for DL-12	1	
DL- 2	510060001	Spring Washer for DL-1	1		DL-18	100257006	Screw for DL-12	2	
DL- 3	510032001	Washer for DL-1	1		DL-19	510360001	Copy Control Operating Crank Unit	1	
DL- 4	510021001	Stud Screw for DL-1	1		DL-20	510024001	Roller for DL-19	1	
DL- 5	106129001	Nut for DL-1	1		DL-21	510362001	Bush for DL-19	1	
DL- 6	512753001	Stopper for DL-1	1		DL-22	510032001	Washer for DL-21	1	
DL- 7	100257006	Screw for DL-6	2		DL-23	048020346	Snap Ring for DL-21	1	
DL- 8	513569001	Touch Control Driving Rod	1		DL-24	500597001	Spring for DL-19, 14	1	
DL- 9	510024001	Roller for DL-8	1		DL-25	510363001	Copy Control Spring Hook	1	
DL-10	505116001	Center Screw for DL-8	1		DL-26	513573001	Driving Rod for DL-12	1	
DL-11	402959001	Nut for DL-10	1		DL-27	510370001	Holder for DL-26	1	
DL-12	512314	Copy Control Dial	1		DL-28	401881003	Screw for DL-27	2	
DL-12-1	512749	" for M711, 713	1		DL-29	048020346	Snap Ring for DL-26	1	
DL-13	510060001	Spring Washer for DL-12	1		DL-30	510898001	Spring for DL-26	1	
DL-14	510032001	Washer for DL-12	1		DL-31	513574001	Copy Control Wire (A)	2	
DL-15	510021001	Stud Screw for DL-12	1		DL-32	511008001	" (B)	1	

CARRIAGE RAIL HOLDER, SPRING DRUM

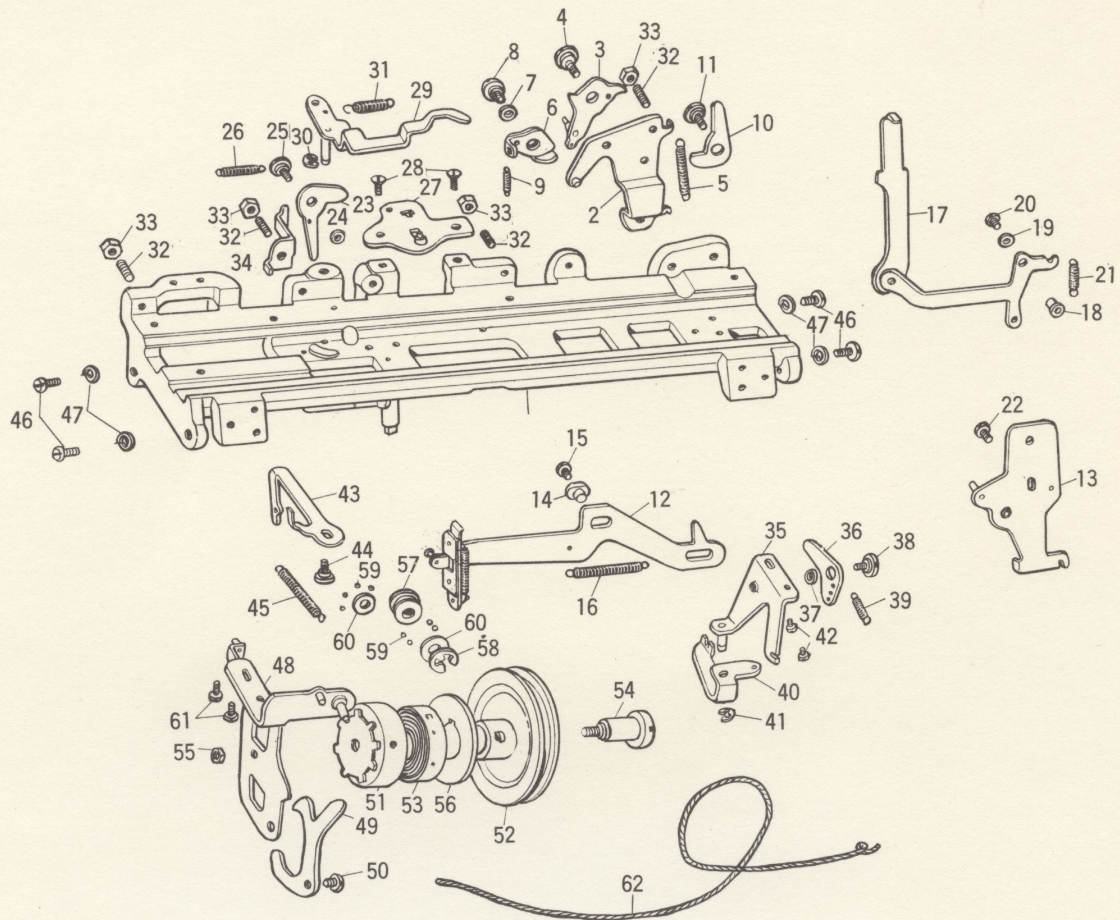


FIG. DM

REF.NO.	PART NO.	PART NAME	Q'TY	MEMO	REF.NO.	PART NO.	PART NAME	Q'TY	MEMO
DM-1	503700000	Carriage Rail Holder	1		DM-35	510503001	Crank Holder Unit	1	
DM-2	510487001	Holder for DM-3, 6, 10	1		DM-36	510505001	Return Release Lever (front)	1	
DM-3	503701001	Operating Link Unit for DM-2	1		DM-37	503092001	Washer for DM-36	1	
DM-4	503026001	Stud Screw for DM-3	1		DM-38	503025001	Stud Screw for DM-36	1	
DM-5	500677001	Spring for DM-2	1		DM-39	500404001	Spring for DM-36	1	
DM-6	510697001	Stopper for DM-3	1		DM-40	510524001	Return Release Crank	1	
DM-7	510037001	Collar for DM-6	1		DM-41	048025346	Snap Ring for DM-40	1	
DM-8	510035001	Stud Screw for DM-6	1		DM-42	106754003	Screw for DM-35	2	
DM-9	500611001	Spring for DM-6	1		DM-43	511193001	Carriage Release Link	1	
DM-10	510497001	Return Release Lever Rear for Full Electric	1		DM-44	503025001	Stud Screw for DM-43	1	
DM-11	503025001	Screw for DM-10	1		DM-45	512189001	Spring for DM-43	1	
DM-12	510493001	Tab Stopper Holder	1		DM-1 ~45	(510486001)	Carriage Rail Holder Complete for Full Electric	1	
DM-13	510495001	Holder for DM-17	1		DM-1 ~45	(512233001)	Carriage Rail Holder Complete for Semi Electric	1	
DM-14	512127001	Stud Collar for DM-12	1		DM-46	105142001	Screw for DM-1	4	
DM-15	402984002	Screw for DM-12	1		DM-47	028050140	Spring Washer for DM-1	4	
DM-16	501406001	Spring for DM-12	1		DM-48~60	(511092001)	Spring Drum Complete for Full Electric	1	
DM-17	510860001	Tab Set Pawl Operating Lever Unit	1		DM-48~60	(512529001)	" for Semi Electric	1	
DM-18	508287001	Stud Collar for DM-17	1		DM-48	511100001	Spring Drum Holder	1	
DM-19	503092001	Washer for DM-17	1		DM-49	503733001	Spring Drum Ratehet	1	
DM-20	402984002	Screw for DM-17	1		DM-50	401881003	Screw for DM-49	1	
DM-21	511198001	Spring for DM-17	1		DM-50-1	001660402	Screw for DM-49	1	
DM-22	402984002	Screw for DM-13	1		DM-51	511096001	Spring Drum Cap	1	
DM-23	510498001	Space Ratchet Releaser	1		DM-52	511093001	Spring Drum	1	
DM-24	402070001	Washer for DM-23	1		DM-53	511101001	Main Spring for Full Electric	1	
DM-25	503025001	Stud Screw for DM-23	1		DM-53-1	512530001	Main Spring for Semi Electric	1	
DM-26	506155001	Spring for DM-23	1		DM-54	511099001	Axle for DM-52	1	
DM-27	510499001	Guide Plate for DM-17	1		DM-55	106129001	Nut for DM-54	1	
DM-28	403215002	Screw for DM-27	2		DM-56	512483001	Main Spring Side Plate	1	
DM-29	503714001	Tab Clear Lever	1		DM-57	513891001	Roller for DM-62	1	
DM-30	048030346	Snap Ring for DM-29	1		DM-58	048025346	Snap Ring for DM-57	1	
DM-31	503154001	Spring for DM-29	1		DM-59	402104001	Steel Ball for DM-57	14	
DM-32	510485001	Screw for DM-1	4		DM-60	025660236	Washer for DM-57	2	
DM-33	402230001	Nut for DM-32	4		DM-61	106754003	Screw for DM-48	1	
DM-34	504001001	Stopper for DM-29	1		DM-62	510798001	Draw String for 13' Carriage	1	
DM-35-41	(510502001)	Crank Holder Assembly	1		DM-62-1	510109001	Draw String for 11' Carriage	1	

PINION BASE

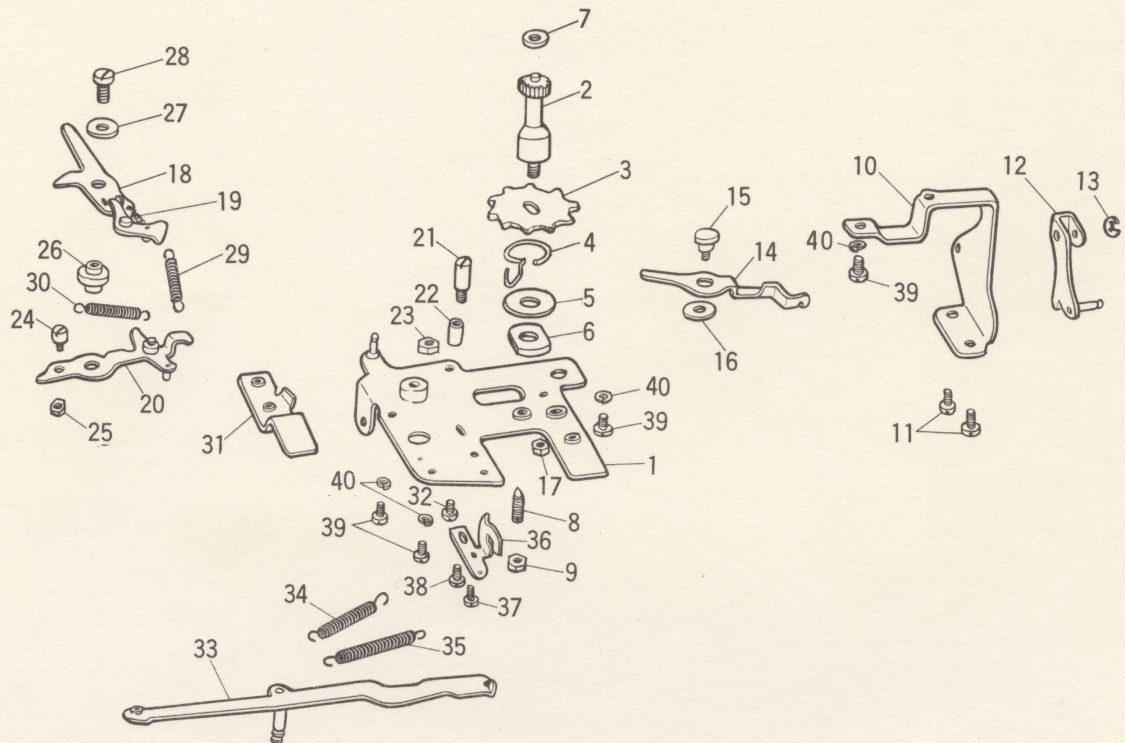


FIG. DN

REF.NO.	PART NO.	PART NAME	Q'TY	MEMO	REF.NO.	PART NO.	PART NAME	Q'TY	MEMO
DN-1~38	(510755001)	Pinion Base Complete Elite	1		DN-20	510670001	Half Space Ratchet Unit	1	
DN-1~38	(510663001)	Pinion Base Complete Pica	1		DN-21	510540001	Eccentric Screw for DN-20	1	
DN- 1	510664001	Space Pinion Base Plate	1		DN-22	510541001	Cushion Rubber	1	
DN- 2	503759001	Space Pinion Pica	1		DN-23	500296001	Nut for DN-21	1	
DN- 2 -1	504178001	Space Pinion Elite	1		DN-24	501023001	Adjusting Screw for DN-20	1	
DN- 3	503760001	Space Ratchet Wheel	1		DN-25	500296001	Nut for DN-24	1	
DN- 4	503761001	Pawl Escape Spring	1		DN-26	504660001	Space Ratchet Axle	1	
DN- 5	514113001	Washer for DN-2	1		DN-27	501018001	Washer for DN-18	1	
DN- 6	514112001	Nut for DN-2	1		DN-28	100137003	Screw for DN-18	1	
DN- 7	503090001	Washer for DN-2	1		DN-29	503155001	Spring for DN-18	1	
DN- 8	500278001	Center Screw for DN-2	1		DN-30	500677001	Spring for DN-20	1	
DN- 9	106129001	Nut for DN-8	1		DN-31	510546001	Back Space Pawl Holder	1	
DN-10	503763001	Space Pinion Holder Unit	1		DN-32	402281002	Screw for DN-31	1	
DN-11	105123002	Screw for DN-10	2		DN-33	510522001	Back Space Pawl	1	
DN-12	503765001	Escape Crank (front)	1		DN-34	506155001	Spring (A) for DN-33	1	
DN-13	048015346	Snap Ring for DN-12	1		DN-35	504293001	Spring (B) for DN-33	1	
DN-14	510547001	Escape Crank (rear)	1		DN-36	511119001	Guide for DN-33	1	
DN-15	503030001	Eccentric Stud Screw	1		DN-37	401881003	Screw (A) for DN-36	1	
DN-16	503092001	Washer for DN-14	1		DN-38	500654001	Screw (B) for DN-36	1	
DN-17	402230001	Nut for DN-15	1		DN-39	106754003	Screw for DN-1, 10	4	
DN-18	504657001	Space Ratchet Unit	1		DN-40	028350243	Spring Washer for DN-39	4	
DN-19	510716001	Spring with DN-18	1						

CHASSIS

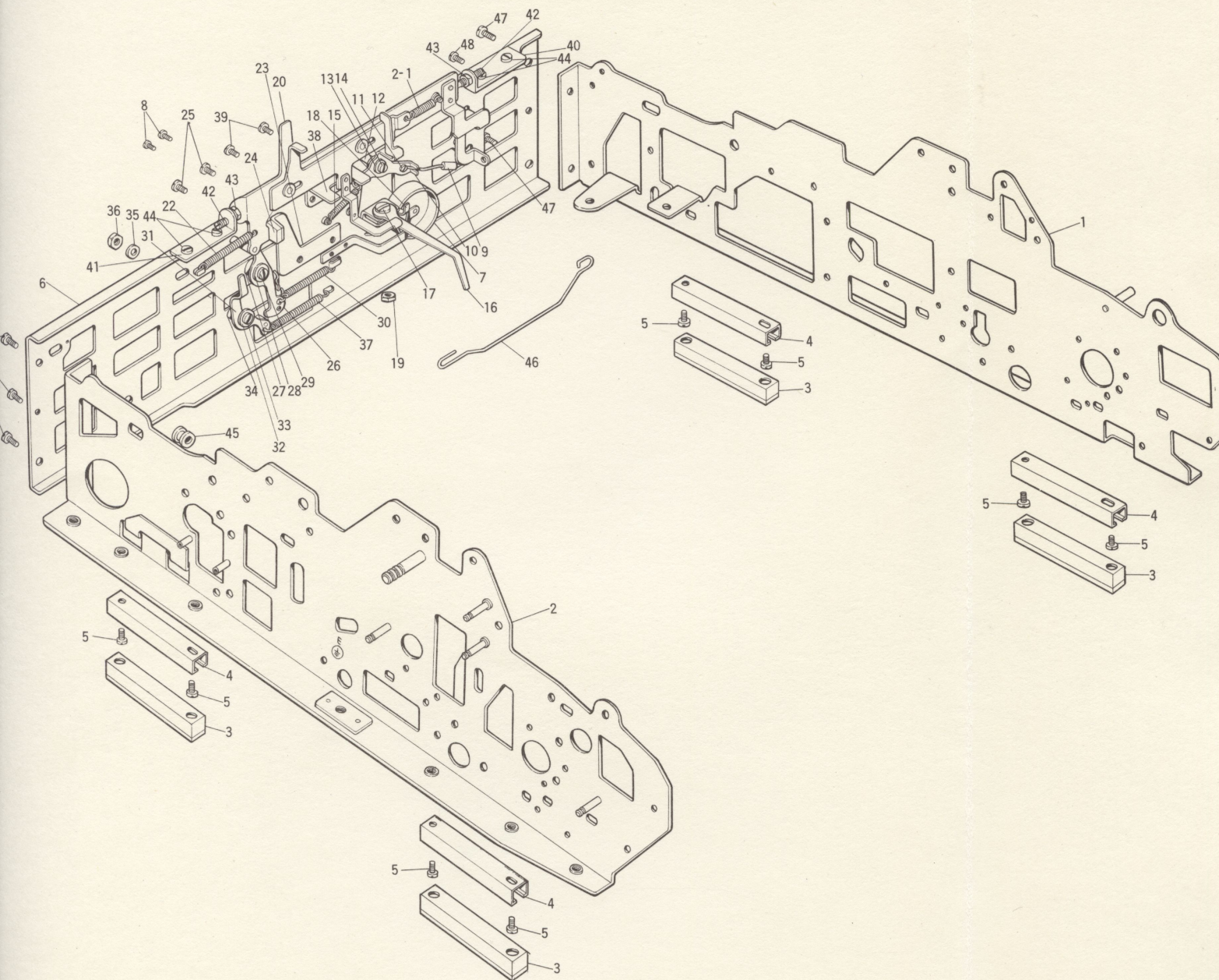


FIG. DO

REF.NO.	PART NO.	PART NAME	Q'TY	MEMO	REF.NO.	PART NO.	PART NAME	Q'TY	MEMO
DO-1	513575001	Chassis (right) Unit for All Model	1		DO-21	507007001	Spring (A) for DO-20	1	
DO-2	513578001	Chassis (left) Unit for U.S.A. & Canada	1		DO-22	500677001	Spring (B) for DO-20	1	
DO-2-1	513956001	Chassis (left) Unit for U.S.A. & Canada (M711, 713 only)	1		DO-23	510395001	Stopper (A) for DO-20	1	
DO-2-2	513719001	Chassis (left) Unit for Other Model & Other Distination	1		DO-24	510397001	Cushion Rubber with DO-23	1	
DO-3	510482001	Cushion Rubber for DO-1,2 without M711, M713	4		DO-25	001679413	Screw for DO-23	2	
DO-4	510483001	Holder for DO-3 without M711, M713	4		DO-26	510398001	Return Release Link (A)	1	
DO-5	001679413	Screw for DO-4 without M711, M713	8		DO-27	503083001	Stud Collar for DO-26	1	
DO-6~45(510381001)		Chassis (rear) Complete, Pica	1		DO-28	503092001	Washer for DO-26	1	
"	(510748001)	Chassis (rear) Complete, Elite	1		DO-29	402659001	Screw for DO-26	1	
DO-6	510382001	Chassis (rear) Unit	1		DO-30	501406001	Spring for DO-26	1	
DO-7	503784001	Warning Bell	1		DO-31	510399001	Space Ratchet Releaser	1	
DO-8	402281002	Screw for DO-7	2		DO-32	501018001	Washer for DO-31	1	
DD-9~11(510385001)		Bell Hammer Assembly	1		DO-33	105205001	Screw for DO-31	1	
DO-9	503788001	Bell Hammer	1		DO-34	510044001	Stud Collar for DO-31	1	
DO-10	510386001	Holder for DO-9	1		DO-35	400806002	Washer for DO-31	1	
DO-11	402281002	Screw for DO-9	1		DO-36	106129001	Nut for DO-33	1	
DO-12	503084001	Stud Collar for DO-9	1		DO-37	501406001	Spring for DO-31	1	
DO-13	402281001	Washer for DO-9	1		DO-38	510401001	Stopper (B) for DO-20	1	
DO-14	402849002	Screw for DO-9	1		DO-39	001679413	Screw for DO-38	2	
DO-15	500685001	Spring for DO-9	1		DO-40	510402001	Holder (right) for DO-20	1	
DO-16	503792001	Escapement Stopper Operating Plate	1		DO-41	510403001	Holder (left) for DO-20	1	
DO-17	503024001	Stud Screw for DO-16	1		DO-42	503039001	Center Screw for DO-20	2	
DO-18	504671001	Stopper for DO-16	1		DO-43	402959001	Nut for DO-42	2	
DO-19	402230001	Nut for DO-17	1		DO-44	001679413	Screw for DO-40, 41	4	
DO-20	510387001	Carriage Stopper Unit (pica)	1		DO-45	510101001	Cushion Rubber for Motor Holder	1	
DO-20-1	510749001	Carriage Stopper Unit (elite)	1		DO-46	510404001	Tab Release Wire	1	
					DO-47	001679413	Screw for DO-1, 2	4	
					DO-48	507658001	Screw for DO-1, 2	2	

CHASSIS

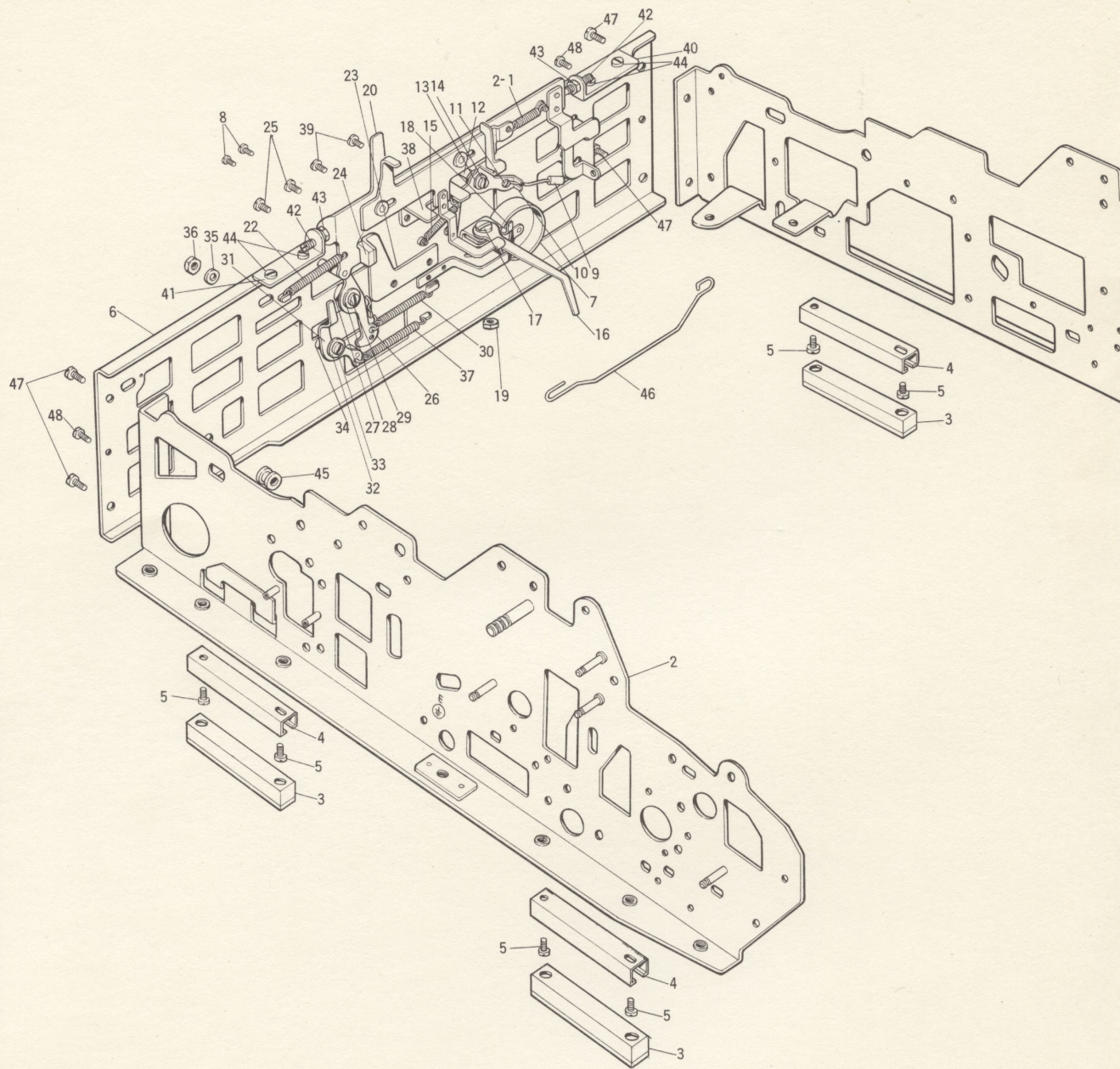


FIG. DO

REF.NO.	PART NO.	PART NAME	Q'TY	MEMO	REF.NO.	PART NO.	PART NAME
DO-1	513575001	Chassis (right) Unit for All Model	1		DO-21	507007001	Spring (A) for DO-20
DO-2	513578001	Chassis (left) Unit for U.S.A. & Canada	1		DO-22	500677001	Spring (B) for DO-20
DO-2-1	513956001	Chassis (left) Unit for U.S.A. & Canada (M711, 713 only)	1		DO-23	510395001	Stopper (A) for DO-20
DO-2-2	513719001	Chassis (left) Unit for Other Model & Other Destination	1		DO-24	510397001	Cushion Rubber with DO-23
DO-3	510482001	Cushion Rubber for DO-1, 2 without M711, M713	4		DO-25	001679413	Screw for DO-23
DO-4	510483001	Holder for DO-3 without M711, M713	4		DO-26	510398001	Return Release Link (A)
DO-5	001679413	Screw for DO-4 without M711, M713	8		DO-27	503083001	Stud Collar for DO-26
DO-6~45	(510381001)	Chassis (rear) Complete, Pica	1		DO-28	503092001	Washer for DO-26
"	(510748001)	Chassis (rear) Complete, Elite	1		DO-29	402659001	Screw for DO-26
DO-6	510382001	Chassis (rear) Unit	1		DO-30	501406001	Spring for DO-26
DO-7	503784001	Warning Bell	1		DO-31	510399001	Space Ratchet Releaser
DO-8	402281002	Screw for DO-7	2		DO-32	501018001	Washer for DO-31
DO-9~11	(510385001)	Bell Hammer Assembly	1		DO-33	105205001	Screw for DO-31
DO-9	503788001	Bell Hammer	1		DO-34	510044001	Stud Collar for DO-31
DO-10	510386001	Holder for DO-9	1		DO-35	400806002	Washer for DO-31
DO-11	402281002	Screw for DO-9	1		DO-36	106129001	Nut for DO-33
DO-12	503084001	Stud Collar for DO-9	1		DO-37	501406001	Spring for DO-31
DO-13	402281001	Washer for DO-9	1		DO-38	510401001	Stopper (B) for DO-20
DO-14	402849002	Screw for DO-9	1		DO-39	001679413	Screw for DO-38
DO-15	500685001	Spring for DO-9	1		DO-40	510402001	Holder (right) for DO-20
DO-16	503792001	Escapement Stopper Operating Plate	1		DO-41	510403001	Holder (left) for DO-20
DO-17	503024001	Stud Screw for DO-16	1		DO-42	503039001	Center Screw for DO-20
DO-18	504671001	Stopper for DO-16	1		DO-43	402959001	Nut for DO-42
DO-19	402230001	Nut for DO-17	1		DO-44	001679413	Screw for DO-40, 41
DO-20	510387001	Carriage Stopper Unit (pica)	1		DO-45	510101001	Cushion Rubber for Motor Holder
DO-20-1	510749001	Carriage Stopper Unit (elite)	1		DO-46	510404001	Tab Release Wire
					DO-47	001679413	Screw for DO-1, 2
					DO-48	507658001	Screw for DO-1, 2

CARRIAGE

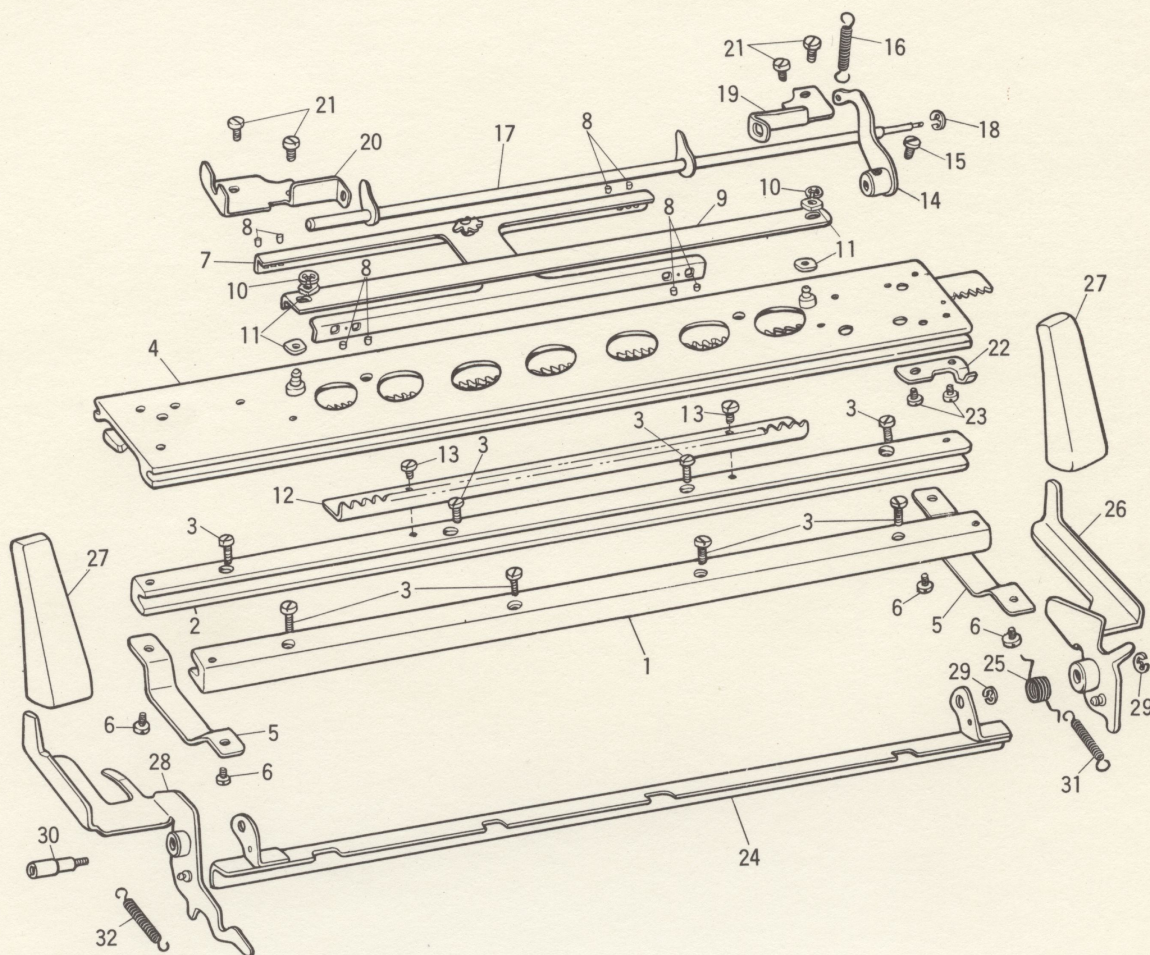


FIG. DP

REF.NO.	PART NO.	PART NAME	Q'TY	MEMO	REF.NO.	PART NO.	PART NAME	Q'TY	MEMO
DP-1	512870001	Carriage Rail (front) 13' Carriage	1		DP-17	512346001	Feed Roller Operating Lever for 13' Carriage	1	
DP-1-1	508525001	" " 11' "	1		DP-17-1	508536001	" " 11' "	1	
DP-2	512871001	" (rear) 13' "	1		DP-18	048020346	Snap Ring for DP-17	1	
DP-2-1	508526001	" " 11' "	1		DP-19	513164001	Holder Right for DP-17	1	
DP-3	507142001	Screw for DP-1, 2	8		DP-20	513165001	Holder Left for DP-17	1	
DP-4-11	(512342001)	Carriage Complete for 13' Carriage Pica	1		DP-21	504601001	Screw for DP-19, 20	4	
DP-4-1-11	(512372001)	" " " Elite	1		DP-22	503819001	Hook for Draw String	1	
DP-4-2-11	(512251001)	" " 11' " Pica	1		DP-23	100191004	Screw for DP-22	2	
DP-4-3-11	(512289001)	" " " Elite	1		DP-24	512874001	Carriage Release Plate for 13' Carriage	1	
DP-4	512343001	Carriage Unit for 13' Carriage, Pica	1		DP-24-1	512540001	" " 11' "	1	
DP-4-1	512373001	" " " Elite	1		DP-25	512577001	Spring for DP-26	1	
DP-4-2	512252001	" " 11' " Pica	1		DP-26-1	(513933)	Carriage Release Lever Right with DP-27	1	
DP-4-3	512290001	" " " Elite	1		DP-26-1-27	(512801)	" " for M711 & 713	1	
DP-5	512825001	Carriage Rail Holder for DP-1 & 2, 13' Carriage	2		DP-26	509438001	Carriage Release Lever (right)	1	
DP-6	100137003	Screw for DP-3	4		DP-26-1	512542001	" " for M711 & 713	1	
DP-7	508529001	Carriage Retainer Unit	1		DP-27-28	(513934)	Carriage Release Lever Left with DP-27	1	
DP-8	508532001	Roller for DP-2, 14	8		DP-27-28-1	(512800)	" " for	1	
DP-9	504117001	Carriage Retainer Rack, Front for 13' Carriage	1				M711 & 713	1	
DP-9-1	508533001	" " 11' "	1		DP-27	512751	Knob for DP-26, 28	2	
DP-10	048025346	Snap Ring for DP-4	2		DP-28	509441001	Carriage Release Lever (left)	1	
DP-11	507607001	Vinyl Washer for DP-4	2		DP-28-1	512546001	" " for M711 & 713	1	
DP-12	503810001	Retainer Rack (rear)	1		DP-29	048030346	Snap Ring for DP-26	2	
DP-13	402281002	Screw for DP-12	2		DP-30	509443001	Axle for DP-27	2	
DP-14	508534001	Arm for DP-17	1		DP-31	512928001	Spring for DP-26	1	
DP-15	001660413	Screw for DP-14	1		DP-32	504292001	Spring for DP-27	2	
DP-16	512928001	Spring for DP-14	1						

PAPER FEED

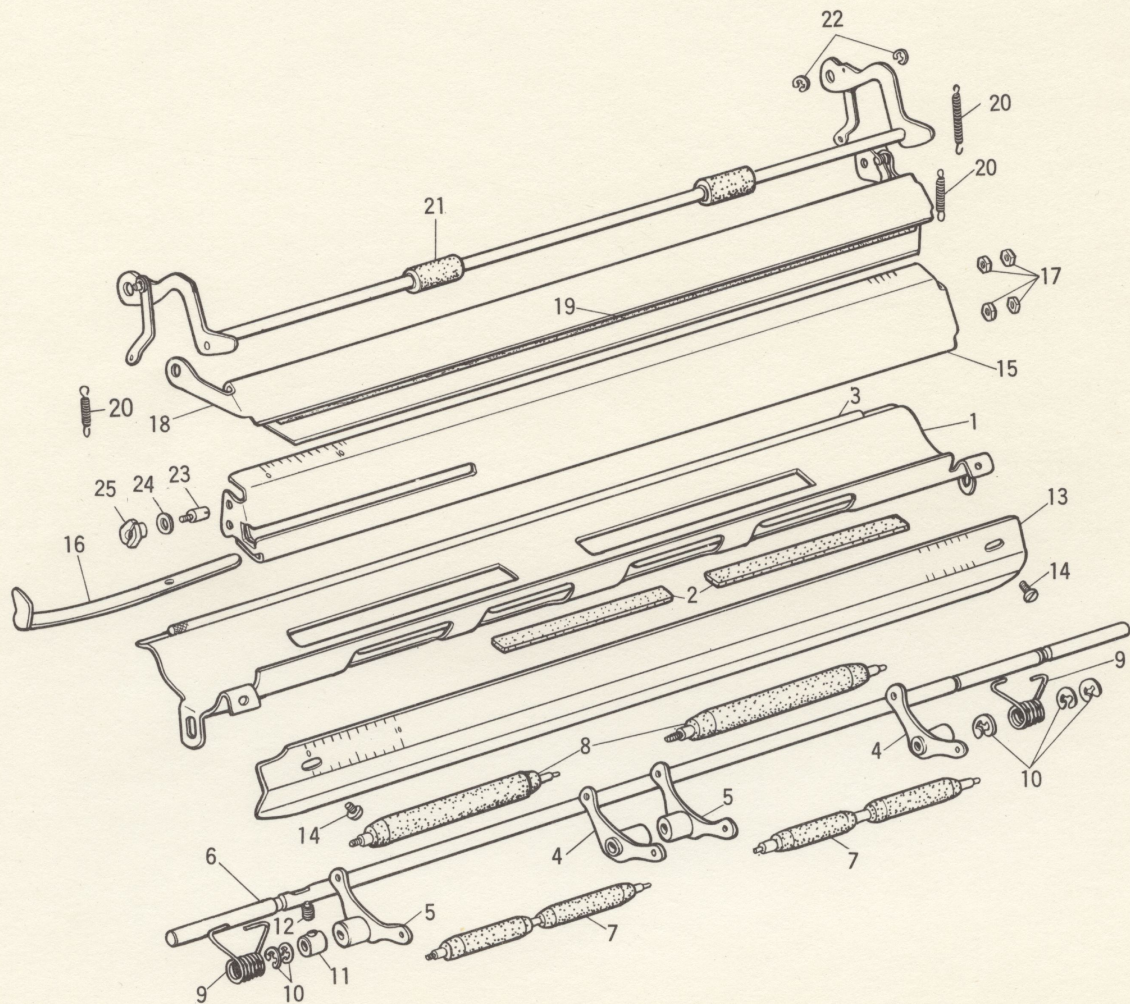


FIG. DQ

REF.NO.	PART NO.	PART NAME	Q'TY	MEMO	REF.NO.	PART NO.	PART NAME	Q'TY	MEMO
DQ-1	512350001	Paper Pan (Lower) for 13" Carriage	1		DQ-14	504251001	Screw for DQ-13	2	
DQ-1-1	508600001	" 11" "	1		DQ-15	512356	Paper Pan Upper Unit, Pica for 13" Carriage	1	
DQ-2	512685001	Sound Absorbent (A) for DQ-1	2		DQ-15-1	512417	" , Elite " "	1	
DQ-3	512352001	" (B) for DQ-1 13" Carriage	1		DQ-15-2	508619	" , Pica for 11" "	1	
DQ-3-1	508602001	" (B) " 11" "	1		DQ-15-3	508741	" , Elite " "	1	
DQ-4	508603001	Holder Right for DQ-7, 8	2		DQ-16	503894001	Paper Guide for DQ-15.	1	
DQ-5	508606001	Holder Left for DQ-7, 8	2		DQ-17	500296001	Nut for DQ-15	4	
DQ-6	512353001	Axle for DQ-4, 5 13" Carriage	1		DQ-18	512890	Paper Rest Unit for 13" Carriage	1	
DQ-6-1	508607001	" 11" Carriage	1		DQ-18-1	508623	" 11" Carriage	1	
DQ-7	508608001	Paper Feed Roller (front)	2		DQ-19	512889001	Sound Absorbent for DQ-18, 13" Carriage	1	
DQ-8	508612001	Paper Feed Roller (rear)	2		DQ-19-1	509382001	" 11" "	1	
DQ-9	508615001	Spring for DQ-6	2		DQ-20	507007001	Spring for DQ-18, 21	3	
DQ-10	048040346	Snap Ring for DQ-6	5		DQ-21	512363001	Paper Bail Scale Assembly for 13" Carriage	1	
DQ-11	508616001	Collar for DQ-5	1		DQ-21-1	508629001	" 11" "	1	
DQ-12	013680412	Screw for DQ-11	1						
DQ-13	512354	Platen Scale for 13" Carriage Pica	1		DQ-22	048030346	Snap Ring for DQ-21	2	
DQ-13-1	512415	" " Elite	1		DQ-23	508632001	Axle for DQ-15	1	
DQ-13-2	508617	" 11" Carriage Pica	1		DQ-24	102707001	Washer for DQ-23	1	
DQ-13-3	508739	" " Elite	1		DQ-25	508633001	Nut for DQ-23	1	

MARGIN STOP, PLATEN, TAB FRAME

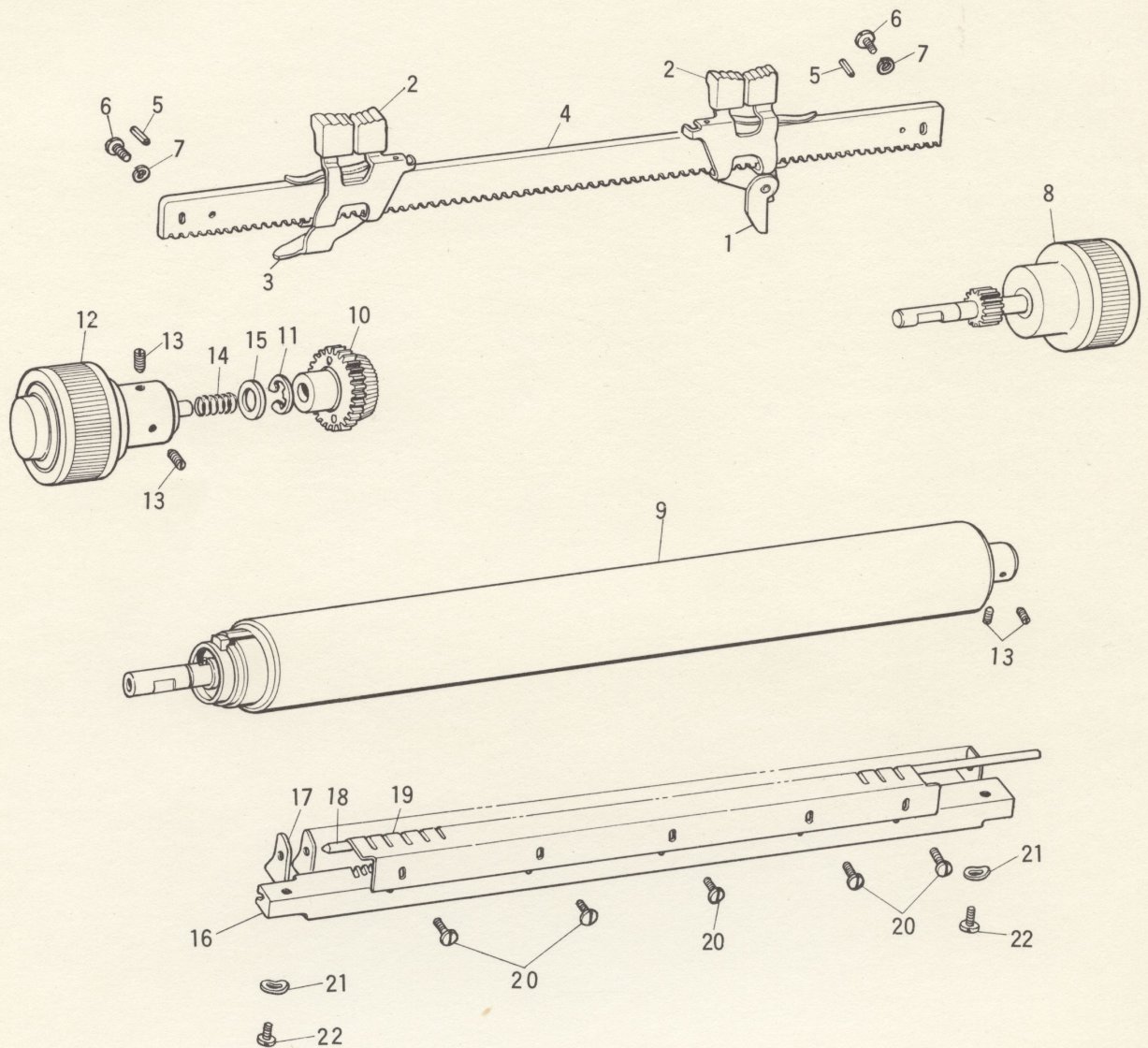


FIG. DR

REF.NO.	PART NO.	PART NAME	Q'TY	MEMO	REF.NO.	PART NO.	PART NAME	Q'TY	MEMO
DR-1-2	(503913001)	Margin Stopper Right with Knob, Pica	1		DR-16-2-20	(512287001)	" 11' Carriage, Pica	1	
DR-1-1-2	(504190001)	" , Elite	1		DR-16-3-20	(512309001)	" " , Elite	1	
DR-1	504591001	Margin Stopper Right, Pica	1		DR-16	513217001	Tab Frame (Pica) for 13' Carriage	1	
DR-1-1	504599001	" , Elite	1		DR-16-1	513158001	" (Elite) "	1	
DR-2-3	(503918001)	Margin Stopper Left with Knob, Pica	1		DR-16-2	513216001	" (Pica) for 11' Carriage	1	
DR-2-3-1	(504192001)	" , Elite	1		DR-16-3	513157001	" (Elite) "	1	
DR-2	503917	Knob for DR-1	2		DR-17	503902001	Tab Pawl (Pica) for 13' Carriage	110	
DR-3	504592001	Margin Stopper Left, Pica	1		DR-17-1	"	" (Elite) "	134	
DR-3-1	504600001	" , Elite	1		DR-17-2	"	" (Pica) for 11' Carriage	90	
DR-4	512367001	Margin Rack Pica for 13' Carriage.	1		DR-17-3	"	" (Elite) "	110	
DR-4-1	512377001	" Elite " "	1		DR-18	503155001	Pivot Wire for 13' Carriage	1	
DR-4-2	508637001	" Pica 11' Carriage,	1		DR-18-1	500720001	" 11' "	1	
DR-4-3	508746001	" Elite " "	1		DR-19	504134001	Spring for 13' Carriage, Pica	1	
DR-5	507596001	Pin for DR-4	2		DR-19-1	504200001	" , Elite	1	
DR-6	001680813	Screw for DR-4	2		DR-19-2	508636001	" 11' , Pica	1	
DR-7	028680243	Spring Washer for DR-6	2		DR-19-3	508745001	" , Elite	1	
DR-8	512739	Platen Knob Right Unit	1		DR-20	400298002	Screw (A) for DR-21	5	
DR-9-11	(512793001)	Platen Assembly for 13' Carriage	1		DR-21	500341001	Spring Washer for DR-21	2	
DR-9-1-11	(512664001)	" 11' "	1		DR-22	512968001	Screw (B) for DR-21	2	
DR-10	508654001	Line Space Ratchet Wheel Unit	1						
DR-11	048060346	Snap Ring for DR-15	1						
DR-12	512743	Platen Knob Left Unit	1						
DR-13	014680622	Screw for DR-8, 17	4						
DR-14	512662001	Spring for DR-17	1						
DR-15	512752001	Collar for DR-17	1						
DR-16-20	(512365001)	Tab Frame Complete for 13' Carriage, Pica	1						
DR-16-1-20	(512375001)	" " , Elite	1						

CARRIAGE SIDE PLATE

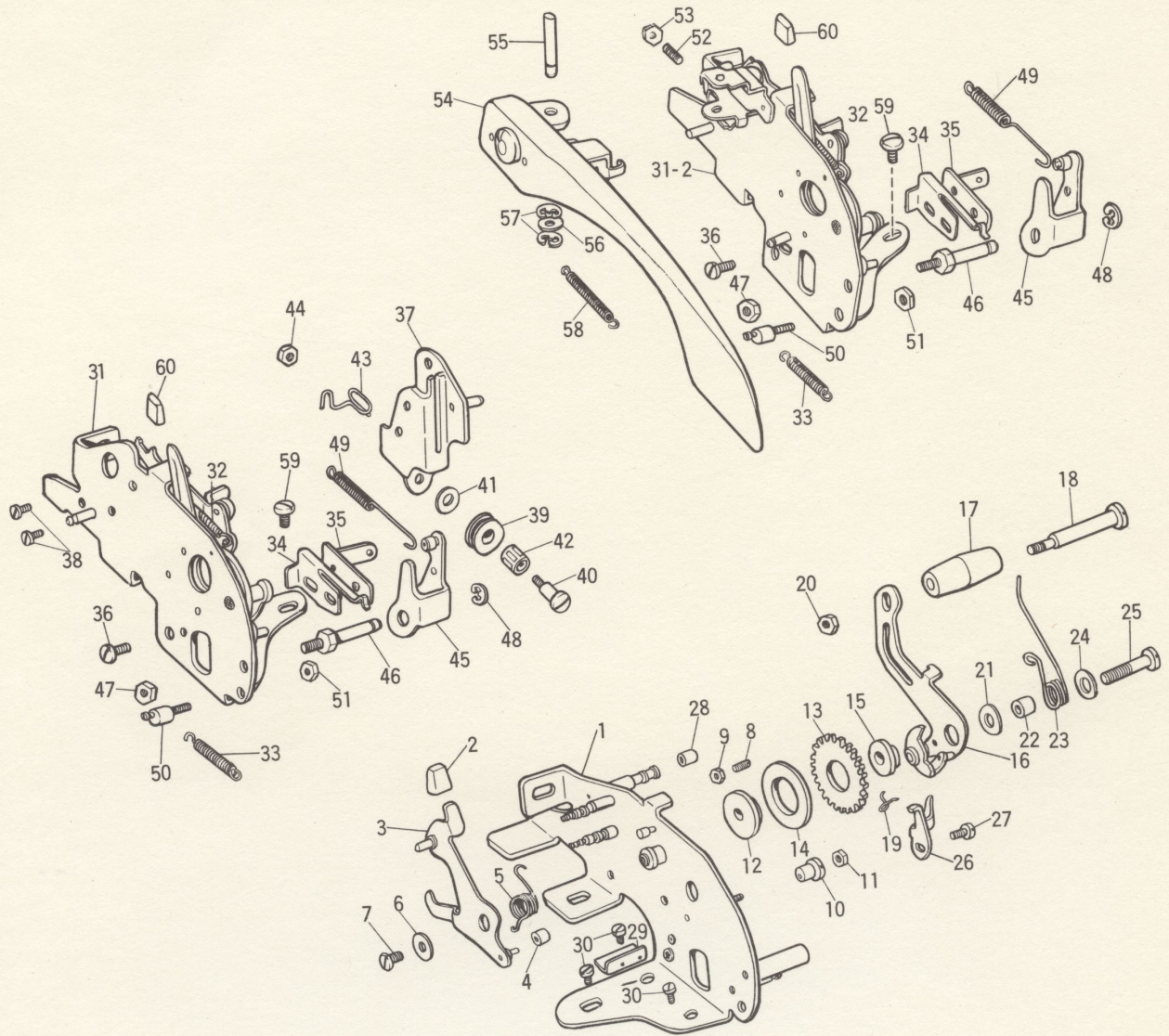


FIG. DS

REF.NO.	PART NO.	PART NAME	Q'TY	MEMO	REF.NO.	PART. NO.	PART NAME	Q'TY	MEMO
DS-1-11	(512802001)	Carriage Side Plate Right Assembly for M711	1		DS-31-1-51	(512804001)	Carriage Side Plate Left Assembly for M711 & M713	1	
DS-1-1-28	(509418001)	Carriage Side Plate Right Assembly	1		DS31-2-36	(509422001)	Carriage Side Plate Left Complete Semi Electric	1	
"	(512818001)	" for M713	1		DS-31	512643001	Carriage Side Plate Left Unit with DS-32,33	1	
DS-1	509419001	Carriage Side Plate Right Unit	1		DS-31-1	512805001	" for M711 & 713	1	
DS-1-1	512803001	" for M711 & 713	1		DS-31-2	509423001	" for Semi Electric	1	
DS-2-3	(513407001)	Paper Release Lever Unit	1		DS-32	509383001	Spring (A) for DS-31	1	
DS-2	503824	Paper Release Lever Knob without M711 & 713	1		DS-33	513619001	Spring (B) for DS-31	1	
DS-3	508547001	Paper Release Lever	1		DS-34	512651001	Line Space Wheel Pressure Spring	1	
DS-4	513036001	Roller for DS-3	1		DS-35	508584001	Holder for DS-34	1	
DS-5	504649001	Spring for DS-3	1		DS-36	401881003	Screw for DS-35	1	
DS-6	402070001	Washer for DS-3	1		DS-37	512378001	Guide Roller Holder	1	
DS-7	401881003	Screw for DS-3	1		DS-38	400163002	Screw for DS-37	2	
DS-8	510485001	Screw for DS-1	1		DS-39	513370001	Return Belt Guide Roller (A)	1	
DS-9	402230001	Nut for DS-8	1		DS-40	512281001	Axle for DS-37	1	
DS-10	503111001	Eccentric Collar for DP-26	1		DS-41	513159001	Washer for DS-37	1	
DS-11	500296001	Nut for DS-10	1		DS-42	510417001	Guide Roller Element (Bearing)	1	
DS-12	503086001	Stud Collar (A) for DS-16 without M711	1		DS-43	512282001	Return Belt Guide Wire (A)	1	
DS-13	503827001	Ratchet Wheel for DS-16	1		DS-44	500683001	Nut for DS-40	1	
DS-14	507280001	Cushion Felt for DS-16	1		DS-45	512964001	Ratchet Roller Holder	1	
DS-15	503087001	Stud Collar (B) for DS-16	1		DS-46	508589001	Eccentric Axle for DS-45	1	
DS-16	508550001	Rapid Advance Lever	1		DS-47	402230001	Nut for DS-46	1	
DS-17	508552	Knob for DS-16	1		DS-48	048025346	Snap Ring for DS-46	1	
DS-18	509459001	Stud Screw for DS-16	1		DS-49	508811001	Spring for DS-45	1	
DS-19	503001001	Spring (A) for DS-16	1		DS-50	503112001	Eccentric Axle for DS-31	1	
DS-20	500683001	Nut for DS-18	1		DS-51	500296001	Nut for DS-50	1	
DS-21	501018001	Washer (A) for DS-16	1		DS-52	011671213	Screw for DS-31-2 Semi Electric	1	
DS-22	503088001	Collar for DS-16	1		DS-53	106129001	Nut for DS-52 Semi Electric	1	
DS-23	503000001	Spring (B) for DS-16	1		DS-54	508593001	Line Space Lever Unit for Semi Electric	1	
DS-24	501018001	Washer (B) for DS-16	1		DS-55	508599001	Axle for DS-54 Semi Electric	1	
DS-25	107732001	Screw for DS-1	1		DS-56	403387001	Washer for DS-54 Semi Electric	1	
DS-26	508554001	Stopper for DS-16	1		DS-57	048030346	Snap Ring for DS-55 Semi Electric	2	
DS-27	402281002	Screw for DS-1	1		DS-58	501125001	Spring for DS-54 Semi Electric	1	
DS-28	500315001	Cushion Rubber for DS-1	1		DS-59	504601001	Screw for DS-31	1	
DS-29	508558001	Spring Hook for DS-1	1		DS-60	503643	Knob for DS-31 without M711, 713	1	
DS-30	504601001	Screw for DS-1	1						
DS-31-51	(512642001)	Carriage Side Plate Left Assembly for Full Electric	1						

PULLEY, MOTOR COVER

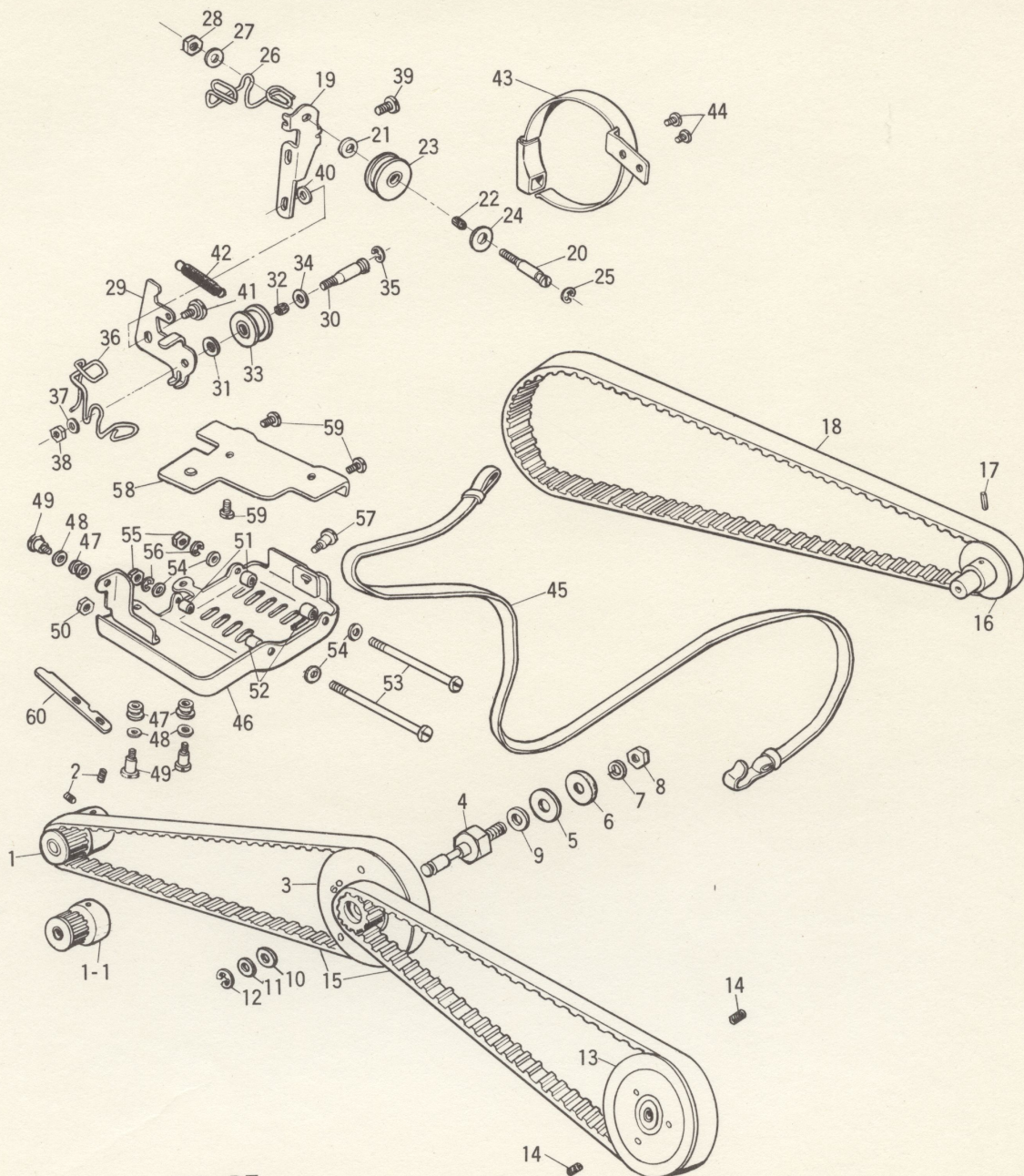


FIG. DT

REF.NO.	PART NO.	PART NAME	Q'TY	MEMO	REF.NO.	PART NO.	PART NAME	Q'TY	MEMO
DT-1	511150001	Motor Pulley (60HZ)	1		DT-29	512962001	Return Belt Guide (B)	1	
DT-1-1	511151001	" (50HZ)	1		DT-30	510419001	Axle for DT-29	1	
DT-2	014670522	Screw for DT-1	2		DT-31	503092001	Washer for DT-30	1	
DT-3	512122001	Idle Pulley (60HZ)	1		DT-32	510417001	Guide Roller Element (Bearing)	1	
DT-3-1	512121001	" (50HZ)	1		DT-33	510416001	Return Belt Guide Roller (B)	1	
DT-4	510412001	Idle Shaft for DT-3	1		DT-34	510695001	Washer for DT-30	1	
DT-5	510372001	Washer (A) for DT-4	1		DT-35	048030346	Snap Ring for DT-30	1	
DT-6	511005001	Washer (B) for DT-4	1		DT-36	512963001	Return Belt Guide Wire (C)	1	
DT-7	028680243	Spring Washer for DT-4	1		DT-37	503092001	Washer for DT-30	1	
DT-8	102853001	Nut for DT-4	1		DT-38	402230001	Nut for DT-30	1	
DT-9	510109001	Felt (A) for DT-4	1		DT-39	401881003	Screw for DT-19	1	
DT-10	511146001	Felt (B) for DT-4	1		DT-40	505595001	Washer for DT-41	1	
DT-11	025050133	Washer for DT-4	1		DT-41	506347001	Stud Screw for DT-29	1	
DT-12	048040346	Snap Ring for DT-4	1		DT-42	504669001	Spring for DT-29	1	
DT-13	512124001	Snach Roll Pulley	1		DT-43	513645001	Belt Cover Unit	1	
DT-14	014680622	Screw for DT-13	2		DT-44	400298002	Screw for DT-43	2	
DT-15	511125001	Timing Belt (Left)	2		DT-45	512817001	Carriage Return Belt	1	
DT-16	510420000	Timing Pulley	1		DT-46	510405001	Motor Holder Unit	1	
DT-17	550557001	Pin for DT-16	1		DT-47	510101001	Cushion Rubber for Motor	3	
DT-18	510047001	Timing Belt (Right)	1		DT-48	510061001	Washer for DT-49	3	
DT-19-28	(512959001)	Return Belt Guide (A) Assembly	1		DT-49	510038001	Stud Screw for DT-46	3	
DT-19	512960001	Return Belt Guide (A)	1		DT-50	402230001	Nut for DT-49	1	
DT-20	510419001	Axle for DT-19	1		DT-51	510039001	Collar for DT-53	2	
DT-21	503092001	Washer for DT-20	1		DT-52	510040001	Collar for DT-53	2	
DT-22	510417001	Guide Roller Element (Bearing)	1		DT-53	513160001	Screw for DT-46	2	
DT-23	510416001	Return Belt Guide Roller (B)	1		DT-54	102707001	Washer for DT-53	4	
DT-24	510695001	Washer for DT-20	1		DT-55	021400103	Nut for DT-53	2	
DT-25	048030346	Snap Ring for DT-20	1		DT-56	028040243	Spring Washer for DT-53	2	
DT-26	510425001	Return Belt Guide Wire (B)	1		DT-57	511170001	Stud Screw for DT-46	1	
DT-27	503092001	Washer for DT-20	1		DT-58	510431000	Motor Cover	1	
DT-28	402230001	Nut for DT-20	1		DT-59	401881003	Screw for DT-58	3	
DT-29-38	(512961001)	Return Belt Guide (B) Assembly	1		DT-60	511081001	Motor Cover for Brother Canada	1	

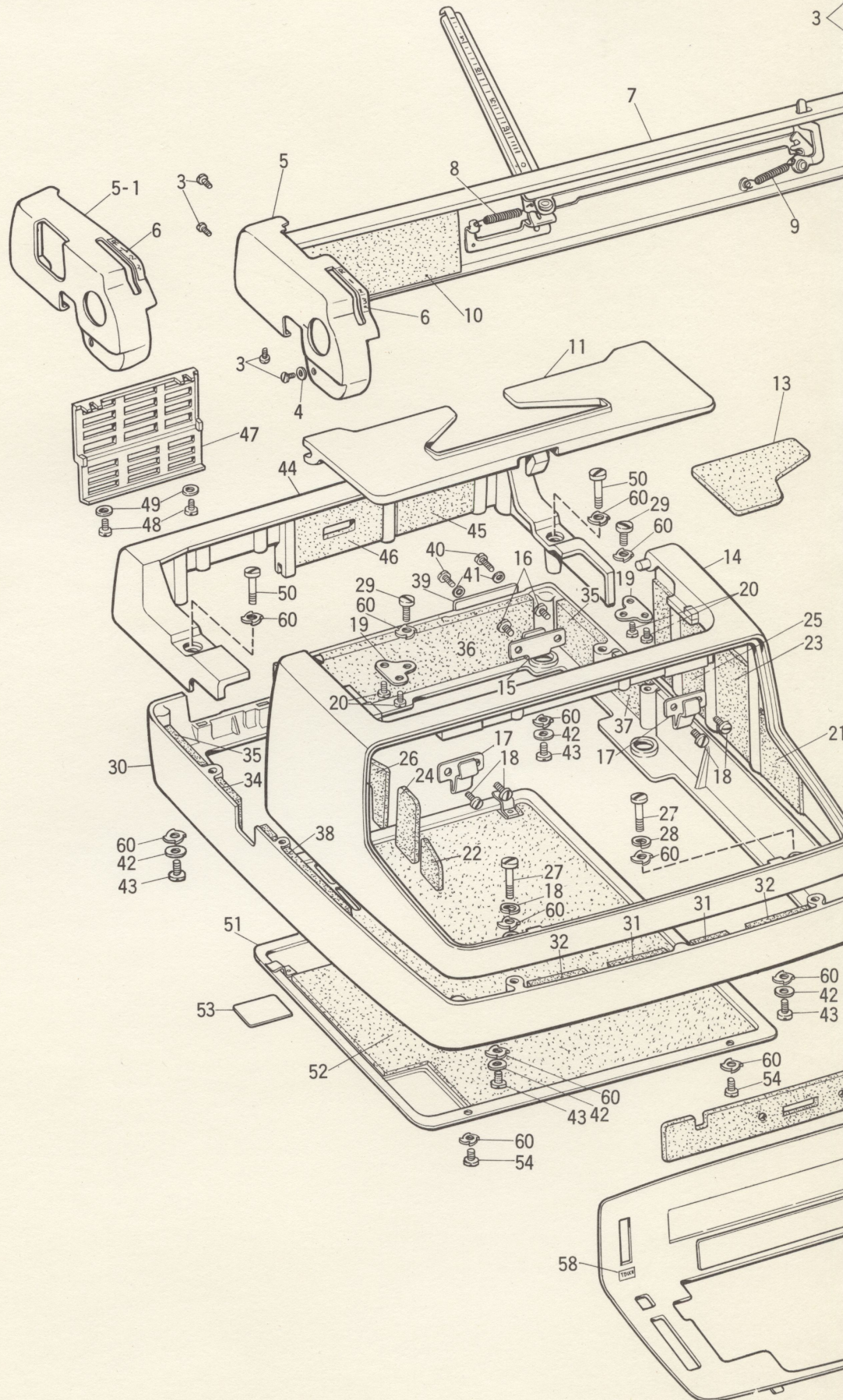
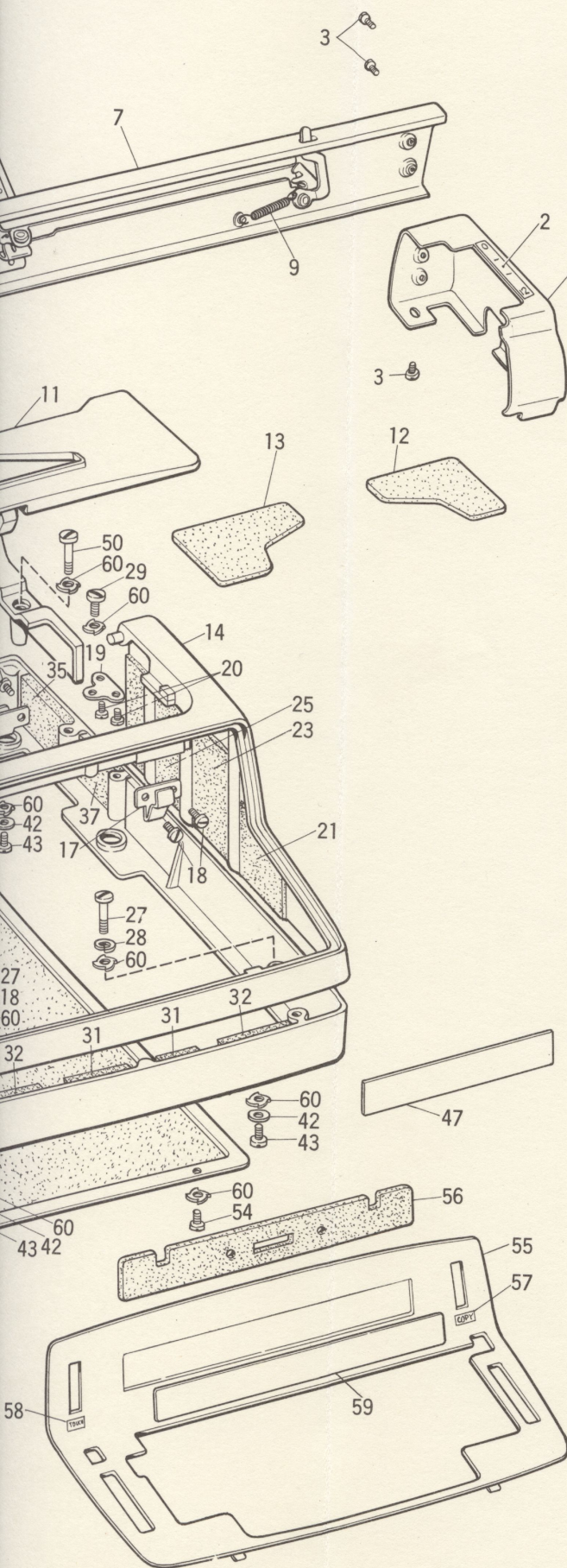


FIG. DU

COVER (I)



REF.NO.	PART NO.	PART NAME	Q'TY	M
DU-1	509430	Carriage Cover Right Unit with DU-2	1	
DU-2	503966001	Rapid Advance Indicator	1	
DU-3	402281002	Screw for DU-1, 5, 7,	8	
DU-4	502131001	Washer for DU-3	2	
DU-5	512673	Carriage Cover Left Unit with DU-6 for Full Electric		
DU-5-1	509432	" for Semi Electric		
DU-6	512675001	Line Space Indicator	1	
DU-7	510985	Carriage Cover Rear Unit for 13' Carriage	1	
DU-7-1	512676	" 11' Carriage	1	
DU-8	510995001	Spring (A) for DU-7	1	
DU-9	511052001	Spring (B) for DU-7	1	
DU-10	510998001	Sound Absorbent for DU-7	1	
DU-10-1	512997001	" for DU-7-1	1	
DU-11	510432	Top Cover Unit	1	
DU-11-1	513712	" for NEMKO, VDE	1	
DU-12	510433001	Sound Absorbent (right) for DU-11	1	
DU-12-1	513694001	" for DU-11-1	1	
DU-13	512678001	" (left) for DU-11	1	
DU-13-1	513695001	" for DU-11-1	1	
DU-14	510434	Upper Cover Unit with DU-15-26	1	
DU-14-1	513713	" for NEMKO, VDE	1	
DU-15	510435001	Holder for DU-11	1	
DU-16	400298002	Screw for DU-15	2	
DU-17	510436001	Pannel Holding Plate	2	
DU-18	402232002	Screw for DU-17	4	
DU-19	510437001	Upper Cover Holding Plate	2	
DU-20	100137003	Screw for DU-19	4	
DU-21	510438001	Sound Absorbent (front right) for DU-14	1	
DU-21-1	513696001	" for DU-14-1	1	
DU-22	512679001	" (front left) for DU-14	1	
DU-22-1	513697001	" for DU-14-1	1	
DU-23	510439001	" (center right) for DU-14	1	
DU-23-1	513698001	" for DU-14-1	1	
DU-24	510825001	" (center left) for DU-14	1	
DU-24-1	513699001	" for DU-14-1	1	
DU-25	510440001	" (rear right) for DU-14	1	
DU-25-1	513700001	" for DU-14-1	1	
DU-26	512680001	" (rear left) for DU-14	1	
DU-26-1	513701001	" for DU-14-1	1	
DU-27	009681613	Screw for DU-14	2	
DU-28	028680243	Spring Washer for DU-27	2	
DU-29	105123002	Screw for DU-14	2	
DU-30	513623	Lower Cover Unit for M6213	1	
DU-30-1	513714	" for NEMKO, VDE	1	
DU-30-2	513600	" for CSA	1	
DU-30-3	513935	" for SEV	1	
DU-31	510445001	Sound Absorbent for DU-30	1	
DU-31-1	513702001	" for DU-30-1	1	
DU-32	510446001	" for DU-30	1	
DU-32-1	513703001	" for DU-30-1	1	
DU-33	510447001	" for DU-30	1	
DU-33-1	513704001	" for DU-30-1	1	
DU-34	510448001	" for DU-30	1	
DU-35	510449001	" for DU-30	2	
DU-35-1	510705001	" for DU-30-1	2	
DU-36	510450001	" for DU-30	1	
DU-36-1	513706001	" for DU-30-1	1	
DU-37	510812001	" for DU-30	1	
DU-37-1	513707001	" for DU-30-1	1	
DU-38	510824001	" for DU-30	1	
DU-38-1	510704001	" for DU-30-1	1	
DU-39		Medallion	1	
DU-40	009630813	Screw for DU-39 (CSA)	2	
DU-41	500296001	Nut for DU-40	2	
DU-42	400806002	Washer for DU-43	4	
DU-43	101629001	Screw for DU-30	4	
DU-44	513624	Rear Cover Unit	1	
DU-44-1	513715	" for NEMKO, VDE	1	
DU-44-2	511130	" for SEV	1	
DU-45	510459001	Sound Absorbent for DU-44	1	
DU-45-1	513708001	" for DU-44-1	1	
DU-46	510460001	" for DU-44	1	
DU-46-1	513709001	" for DU-44-1	1	
DU-47	510088001	Ventilation Opening	1	
DU-48	402984002	Screw for DU-47	2	
DU-49	106659001	Washer for DU-48	2	
DU-50	102023002	Screw for DU-44	2	
DU-51	510466	Bottom Plate Unit	1	
DU-51-1	513716	" for NEMKO, VDE	1	
DU-51-2	513603	" for FRANCE	1	
DU-52	513608001	Sound Absorbent for DU-51	1	
DU-52-1	513710001	" for DU-51-1	1	
DU-53	512697001	Voltage Plate for DU-51	1	
DU-54	105123002	Screw for DU-51	2	
DU-55	513918	Pannel for Full Electric	1	
DU-55-1		Pannel for Semi Electric	1	
DU-56	510690001	Sound Absorbent for DU-55	1	
DU-57	510476001	Copy Control Indicator for DU-55	1	
DU-58	510477001	Touch Control Indicator for DU-55	1	
DU-59		Name Plate DU-55	1	
DU-60	550719002	Toothed Washer for DV-29, 27, 43, 54, 50 (VDE, SEV)	12	

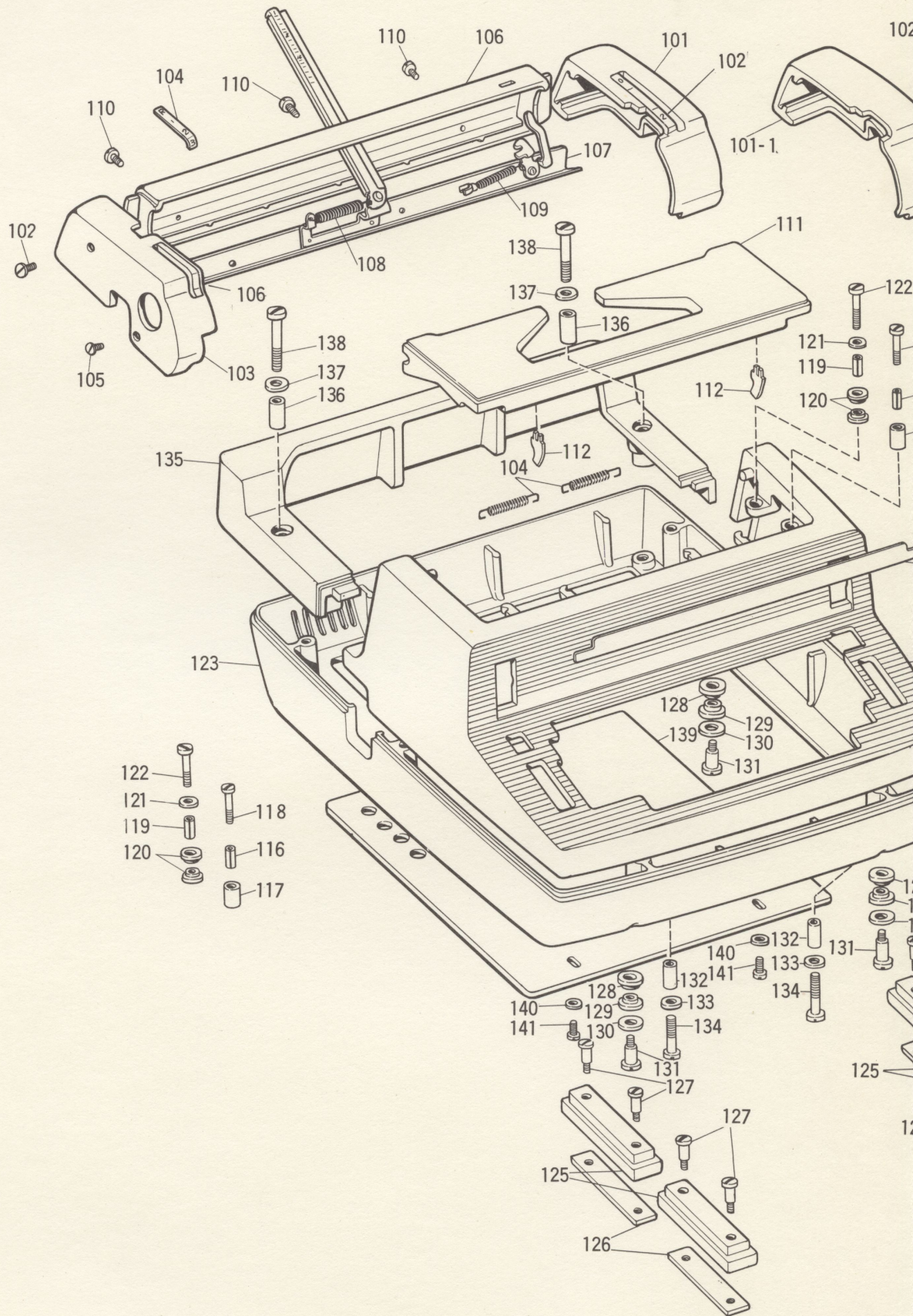
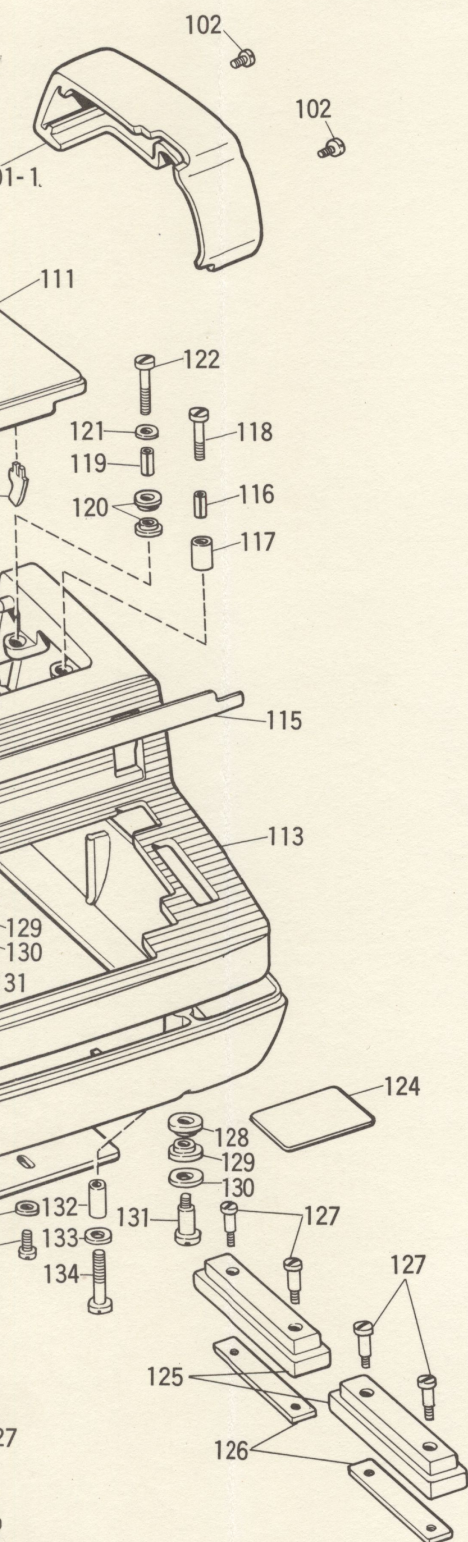


FIG. DU

COVER (II)



REF.NO.	PART NO.	PART NAME	Q'TY	MEMO
DU-101	512725	Carriage Cover Right for M713	1	
DU-101-1	512784	" for M711	1	
DU-102	512806001	Screw for DU-101	3	
DU-103	512807001	Carriage Cover Left with DU-104	1	
DU-104	512675001	Line Space Indicator	1	
DU-105	403863002	Screw for DU-103	1	
DU-106	512728	Carriage Cover Rear for M713	1	
DU-106-1	512727	" for M711	1	
DU-107	512787001	Paper Support Unit	1	
DU-106~107	512809	Carriage Cover Rear with DU-107 for M713	1	
DU-106-1~107	512808	" for M711	1	
DU-108	510995001	Spring (A) for DU-107	1	
DU-109	511052001	Spring (B) for DU-107	1	
DU-110	500750002	Screw for DU-106	3	
DU-111	512810	Top Cover with DU-102	1	
DU-112	512811002	Top Cover Lock Plate	1	
DU-113	512623	Upper Cover Unit	1	
DU-114	512813001	Spring for DU-103	2	
DU-115		Name Plate for DU-103	1	
DU-116	512765001	Collar for DU-103	2	
DU-117	512766001	Rubber for DU-103	2	
DU-118	105205002	Screw for DU-103	2	
DU-119	512767001	Collar for DU-103	2	
DU-120	512768001	Rubber for DU-103	4	
DU-121	512769001	Washer for DU-103	2	
DU-122	107732001	Screw for DU-103	2	
DU-123	512819	Lower Cover Unit	1	
DU-124		Name Plate for DU-113	1	
DU-125	512757001	Rubber for DU-113	4	
DU-126	512756001	Rubber Washer for DU-113	4	
DU-127	512758001	Stud Screw for DU-115	8	
DU-128	512760001	Rubber Washer for DU-113	4	
DU-129	512759001	"	4	
DU-130	025060233	Washer for DU-113	4	
DU-131	512761001	Screw for DU-113	4	
DU-132	512762001	Collar for DU-113	2	
DU-133	512891001	Washer for DU-113	2	
DU-134	102424002	Screw for DU-113	2	
DU-135	512794	Rear Cover for M713	1	
DU-135-1	512722	" for M711	1	
DU-136	512762001	Collar for DU-125	2	
DU-137	512891001	Washer for DU-125	2	
DU-138	102424003	Screw for DU-135	2	
DU-139	512755	Bottom Plate	1	
DU-140	503092001	Washer for DU-129	2	
DU-141	402984001	Screw for DU-129	2	

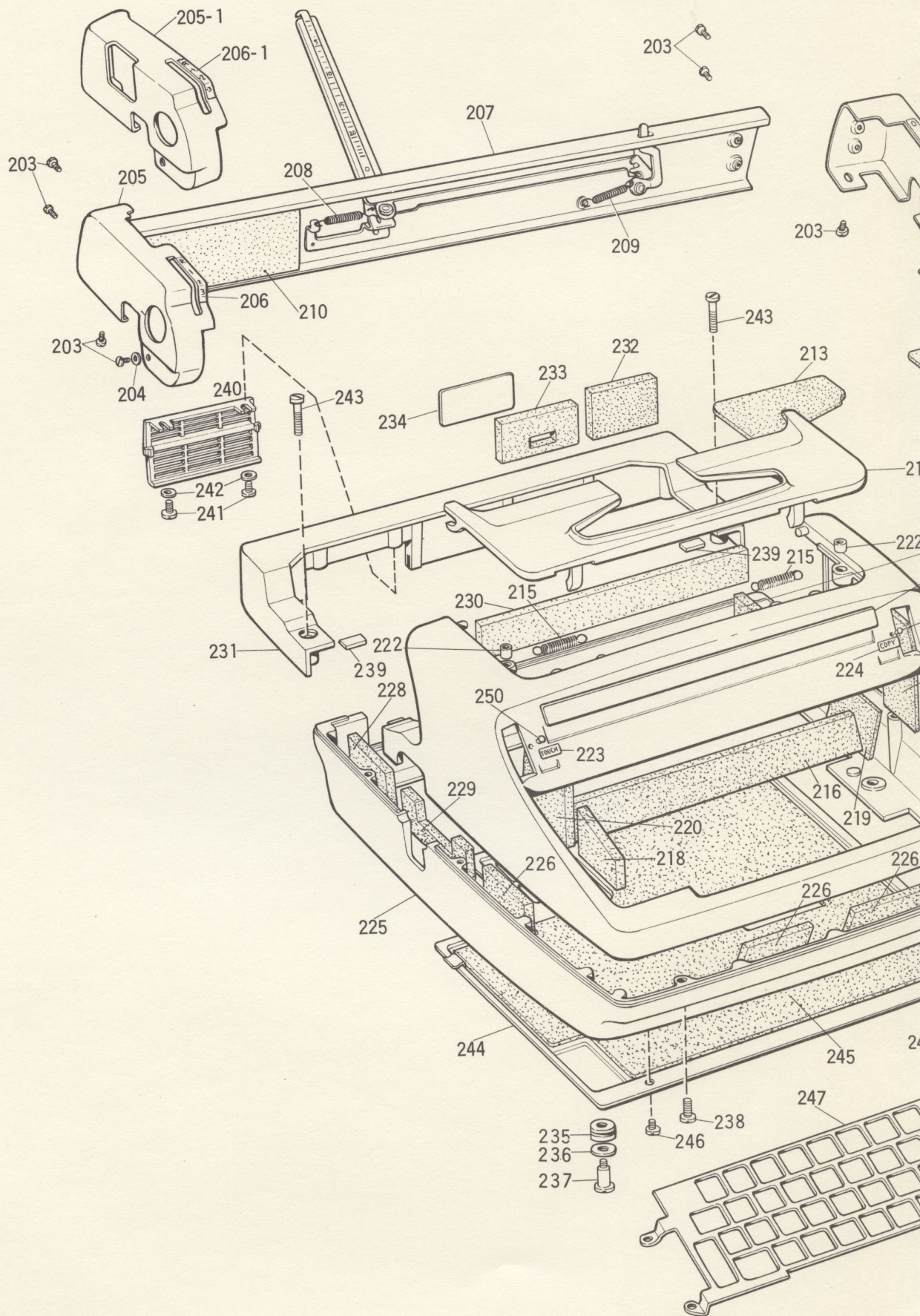
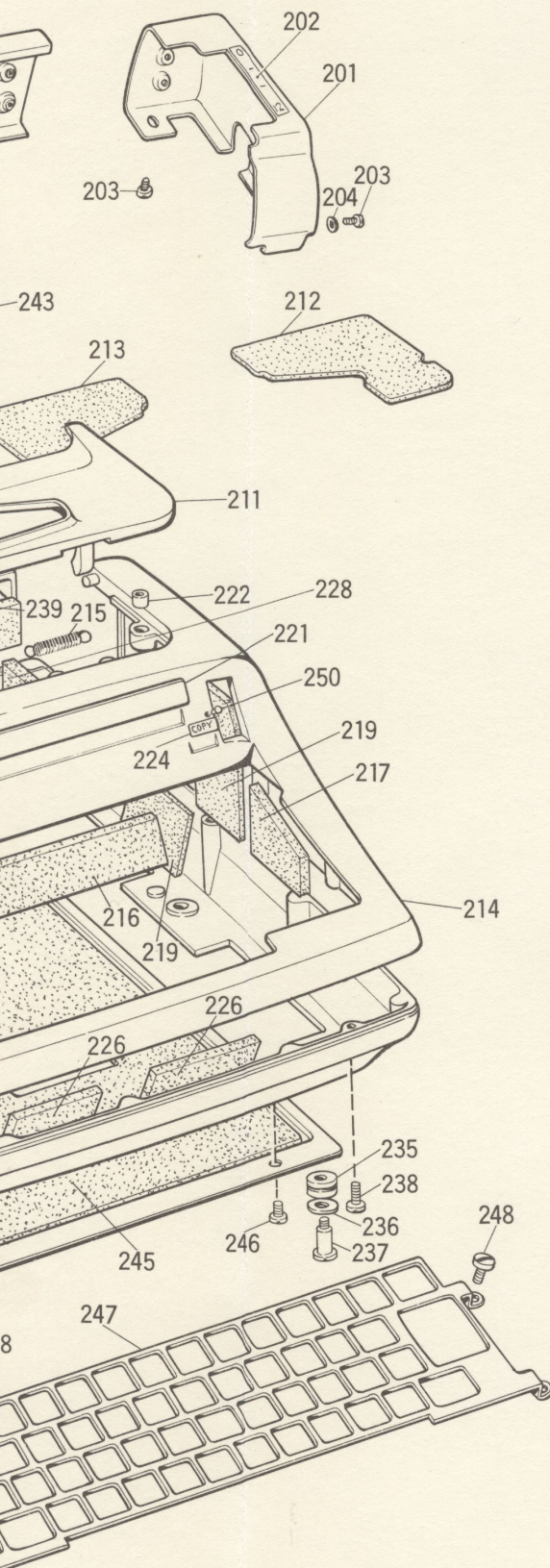
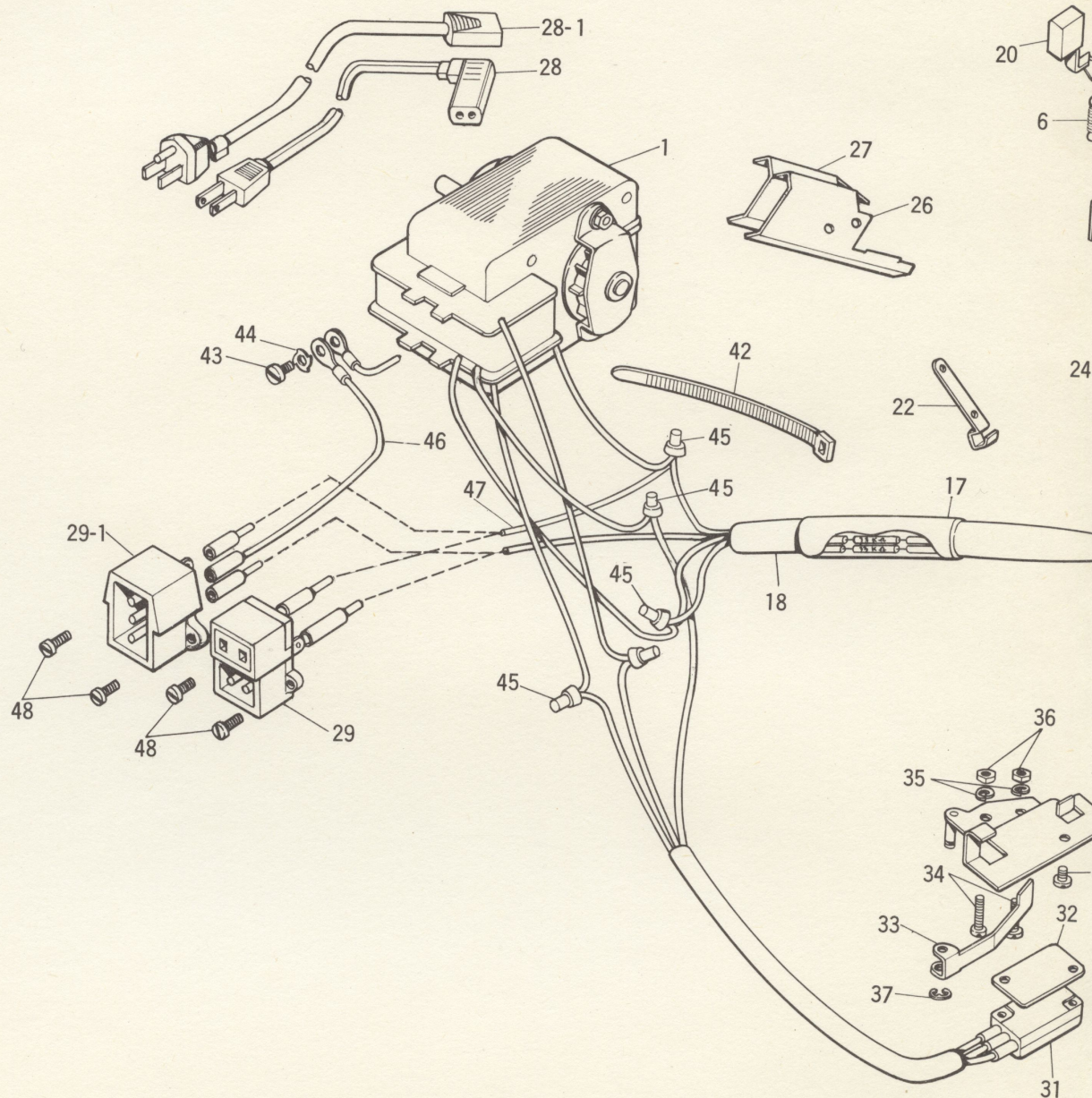


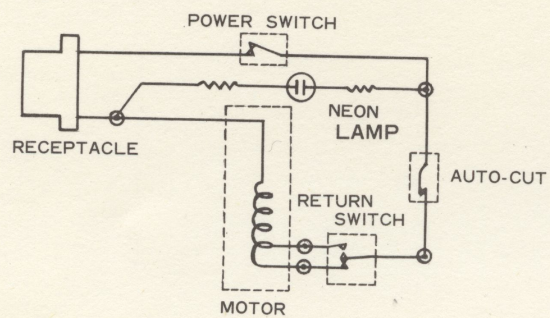
FIG. DU

COVER (III)

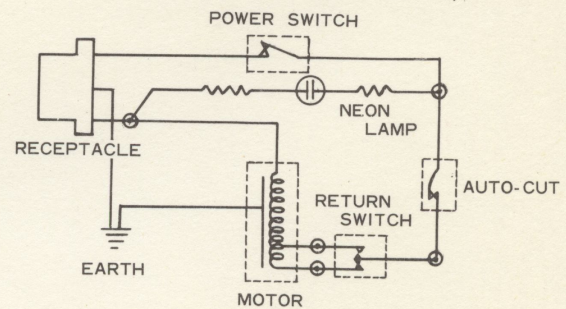
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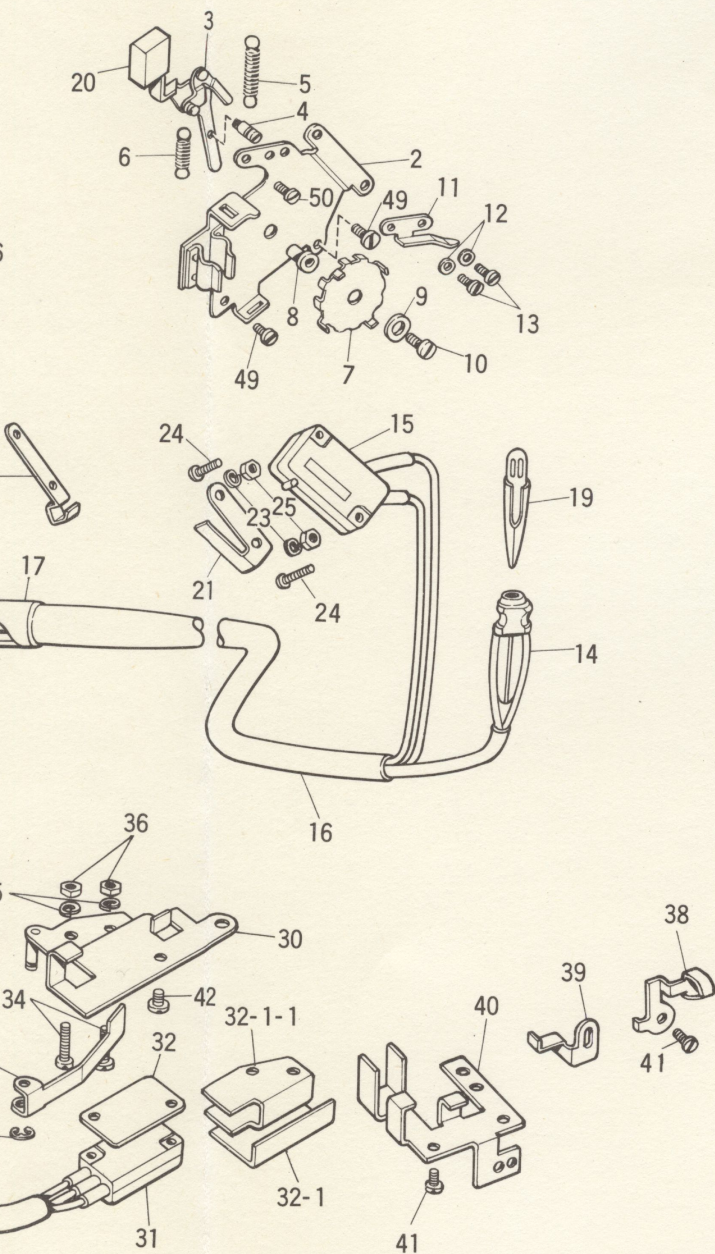
Circuit Diagram for UL & 100~125 (2p)



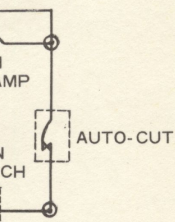
Circuit Diagram for CSA & UL (3p)



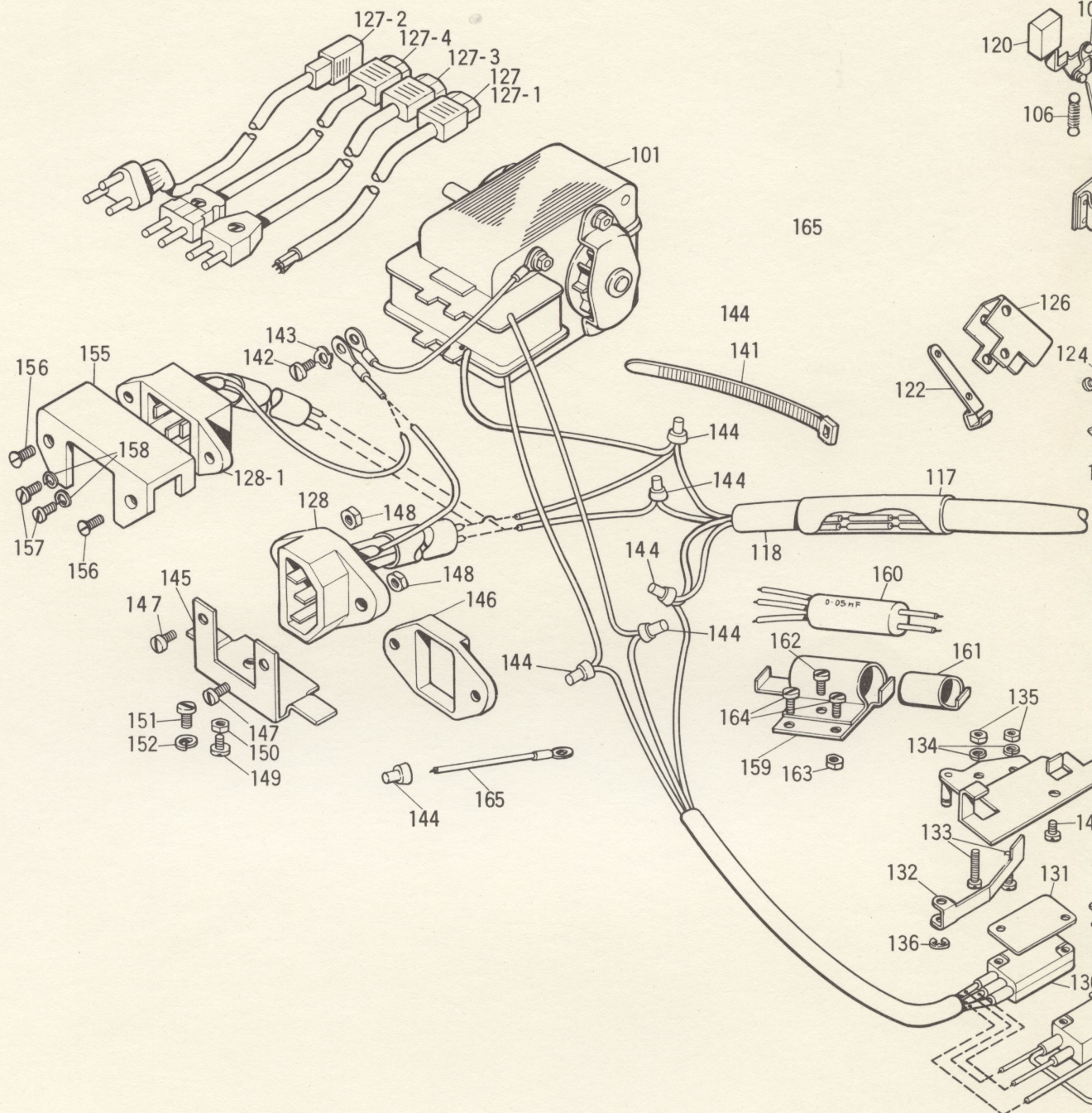
COMPONENTS (I) FOR 100V~125V



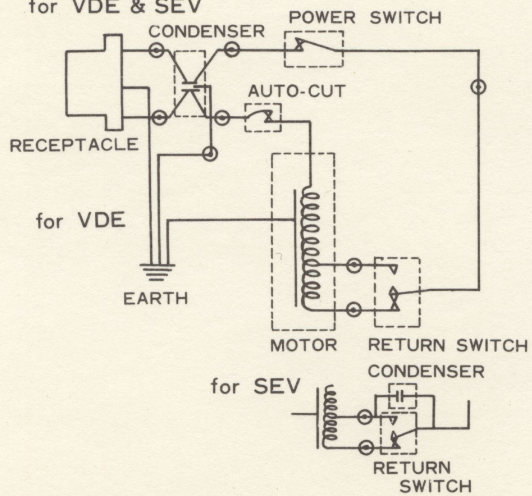
UL (3p)



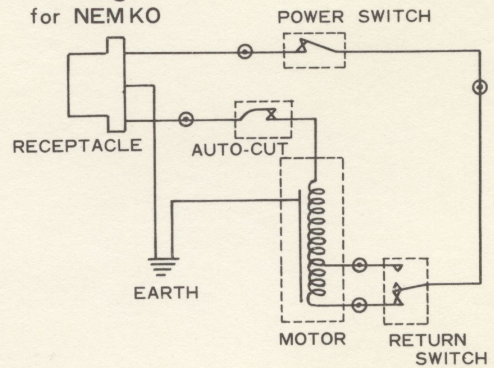
REF.NO.	PART NO.	PART NAME	Q'TY	MEMO
DV-1	512876001	Motor for UL (115V 60HZ)	1	
DV-1-1	513595001	" CSA (115V 60HZ with Earth)	1	
DV-1-2	514081001	" 115V 50HZ	1	
DV-2-25	(514086001)	Power Switch for UL, CSA	1	
DV-2-27	(514089001)	Power " for CSA(M711 & 713)	1	
DV-2-13	(512526001)	Switch Holder Assembly	1	
DV-2	510526001	Switch Holder Unit	1	
DV-3	510530001	Switch Lever Unit	1	
DV-4	503097001	Spring Hook for DV-3	1	
DV-5	500276001	Spring for DV-4	1	
DV-6	510689001	"	1	
DV-7	510534001	Switch Rotor	1	
DV-8	503084001	Stud Collar for DV-7	1	
DV-9	503092001	Washer for DV-10	1	
DV-10	402849002	Screw for DV-7	1	
DV-11	510535001	Pressuer Spring	1	
DV-12	025630233	Washer for DV-13	2	
DV-13	402281002	Screw for DV-11	2	
DV-14-18	(512877001)	Internal Wire for UL, CSA	1	
DV-14	512878001	Pilot Lamp Scket Unit for UL, CSA	1	
DV-15	512879001	Micro Switch with Internal Wire for UL, CSA	1	
DV-16	512880001	Vinyl Tube (A)	1	
DV-17	207227000	Varnish Tube	1	
DV-18	512881001	Vinyl Tube (B)	1	
DV-19	207157000	Pilot Lamp	1	
DV-20	510081001	Switch Button	1	
DV-21	510536001	Actuator	1	
DV-22	510684001	Holder (B) for Internal Wire	1	
DV-23	028260143	Spring Washer for DV-24	2	
DV-24	001261603	Screw for DV-2	2	
DV-25	021260103	Nut for DV-24	2	
DV-26	513358001	Holder (A) for Internal Wire	1	
		(M711 & 713 for CSA)		
DV-27	513359000	Insulating Paper for DV-26	1	
DV-28	514084001	Pawer Supply Cord (UL)	1	
DV-28-1	512901001	" (CSA)	1	
DV-29	510704001	Receptacle for UL	1	
DV-29-1	512775001	" CSA	1	
DV-30-38	(514039001)	Return Switch Assembly for UL, CSA	1	
	(513594001)	Return Switch Assembly for	1	
		(M711 & 713 for CSA)		
DV-30	513351001	Return Switch Holder Unit	1	
DV-31	514038001	Micro Switch with Cord for UL, CSA	1	
DV-32	512575000	Insulating Paper	1	
DV-32-1	513360001	Return Switch Cover	1	
DV-32-1-1	513361000	Insulating Paper	1	
DV-33	513352001	Return Switch Actuator	1	
DV-34	001261603	Screw for DV-30	2	
DV-35	028260143	Spring Washer for DV-34	2	
DV-36	021260103	Nut for DV-34	2	
DV-37	048025346	Snap Ring for DV-30	1	
DV-38	510683001	Holder (A) for Internal Wire	1	
DV-39	510685001	" (C) "	1	
DV-40	512578001	T.M. Cord Holder	1	
DV-41	401881003	Screw for DV-30, 38, 40	3	
DV-42	340400001	Fastening Band	1	
DV-43	105123002	Screw for Earth	1	
DV-44	550719002	Toothed Washer for DV-43	1	
DV-45	207216001	Connector	5	
DV-46	512777001	Earthing Wire for Canada	1	
DV-47	512883001	Internal Wire	1	



Circuit Diagram
for VDE & SEV



Circuit Diagram
for NEMKO



Circuit Diagram
for 220V~2

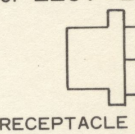
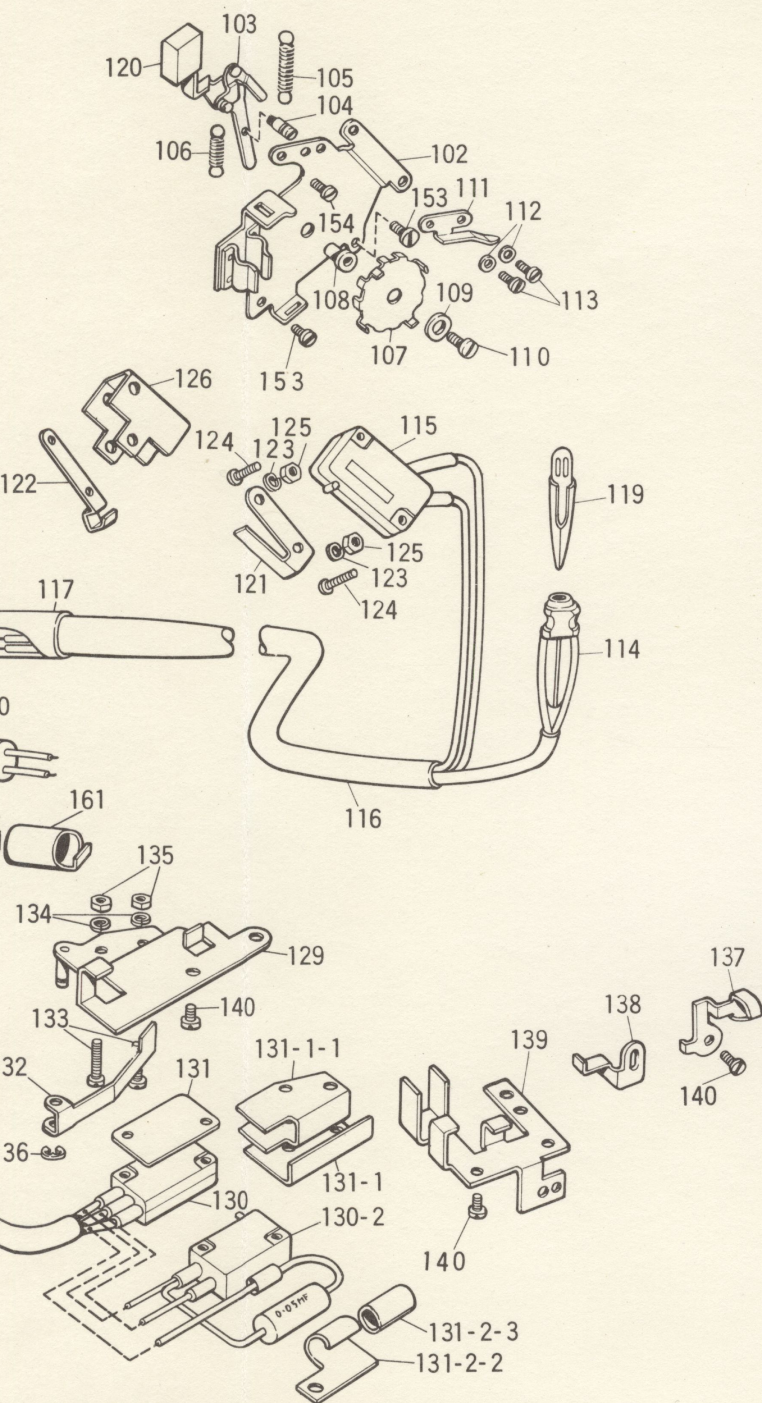
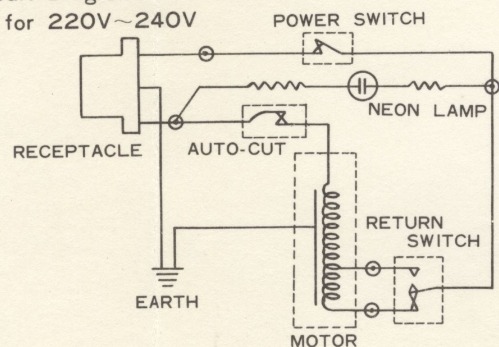


FIG.DV

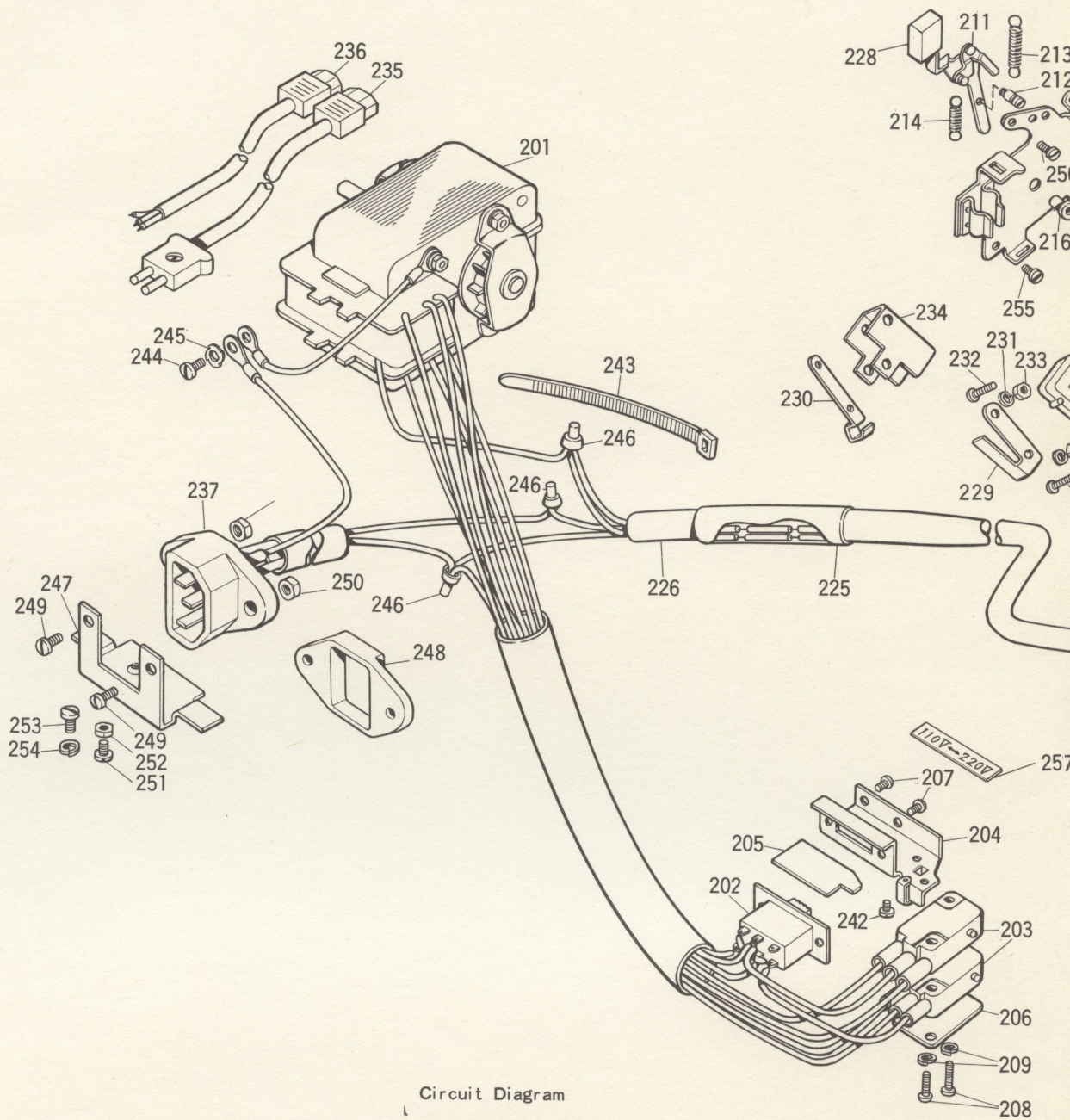
MECHANICAL COMPONENTS (II)



Circuit Diagram
for 220V~240V



REF.NO.	PART NO.	PART NAME	Q'TY	MEMO
DV-101	514001001	Motor for 220V 50HZ	1	
DV-101-1	514006001	" 240V 50HZ	1	
DV-101-2	514007001	" 110V 50HZ	1	
DV-101-3	514080001	" 220V 60HZ	1	
DV-101-4	514082001	" 125V 50HZ	1	
DV-102~126	(514087001)	Power Switch Assembly for 220-240V	1	
"	(514088001)	" for 100-125V	1	
"	(514090001)	" for VDE, SEV, NEMKO	1	
"	(513947001)	" for NEMKO(M711 & 713)	1	
DV-102~113	(512526001)	Switch Holder Assembly	1	
DV-102	510526001	Switch Holder Unit	1	
DV-103	510530001	Switch Lever Unit	1	
DV-104	503097001	Spring Hook for DV-105, 106	1	
DV-105	500276001	Spring for DV-104	1	
DV-106	510689001	"	1	
DV-107	510534001	Switch Rotor	1	
DV-108	503084001	Stud Collar for DV-107	1	
DV-109	503092001	Washer for DV-107	1	
DV-110	402849002	Screw for DV-107	1	
DV-111	510535001	Pressure Spring	1	
DV-112	025630233	Washer for DV-111	2	
DV-113	402281002	Screw for DV-111	2	
DV-114~118	(514008001)	Internal Wire Assembly for 220-240V	1	
"	"	& NEMKO(M711 & 713)	1	
DV-114-1~118	(514012001)	" 100-120V	1	
DV-114	514009001	Pilot Lamp Socket Unit for 220-240V	1	
DV-114-1	514013001	" 100-120V	1	
DV-115	514016001	Micro Switch with Internal Wire	1	
DV-115-1	514069001	Micro Switch with Internal Wire for VDE, SEV & NEMKO	1	
DV-116	512880001	Vinyl Tube (A)	1	
DV-117	207227000	Varnish Tube	1	
DV-118	512881001	Vinyl Tube (B)	1	
DV-119	207157000	Pilot Lamp	1	
DV-120	510081001	Switch Button	1	
DV-121	510536001	Actuator	1	
DV-122	510684001	Holder (B) for Internal Wire	1	
DV-123	028260143	Spring Washer for DV-124	2	
DV-124	001261603	Screw for DV-102	2	
DV-125	021260103	Nut for DV-124	2	
DV-126	207731000	Insulating Paper	1	
DV-127	550980001	Power Supply Cord	1	
DV-127-1	514040001	" (Australia)	1	
DV-127-2	550856001	" (VDE)	1	
DV-127-3	514093001	" (Denmark)	1	
DV-127-4	514095001	" (Italy)	1	
DV-128	514019001	Receptacle with Cord	1	
DV-128-1	514070001	" for VDE, SEV, NEMKO	1	
DV-129~136	(514017001)	Return Switch Assembly	1	
DV-129~136	(514085001)	Return Switch Assembly for VDE, NEMKO	1	
DV-129~136	(514115001)	Return Switch Assembly for SEV	1	
DV-129	513351001	Return Switch Holder Unit	1	
DV-130	514037001	Micro Switch with Cord	1	
DV-130-1	514072001	Micro Switch with Cord for VDE, NEMKO	1	
DV-130-2	514073001	Micro Switch with Cord for SEV	1	
DV-131	512575000	Insulating Paper	1	
DV-131-1	513360001	Return Switch Cover	1	
DV-131-1-1	513361000	Insulating Paper	1	
DV-131-2	513360001	Return Switch Cover	1	
DV-131-2-1	513361000	Insulating Paper	1	
DV-131-2-2	514116001	Condenser Holder (A)	1	
DV-131-2-3	514120000	Insulating Paper	1	
DV-132	513352001	Return Switch Actuator	1	
DV-133	001261603	Screw for DV-129	2	
DV-134	028260143	Spring Washer for DV-133	2	
DV-135	021260103	Nut for DV-133	2	
DV-136	048025346	Snap Ring for DV-129	1	
DV-137	510683001	Holder (A) for Internal Wire	1	
DV-138	510685001	Holder (C) "	1	
DV-139	512578001	T.M Cord Holder	1	
DV-140	401881003	Screw for DV-129, 137, 139	3	
DV-141	340400001	Fastening Band	1	
DV-142	105123002	Screw for Earth	1	
DV-143	550719002	Toothed Washer for DV-142	1	
DV-144	207216000	Connector	1	
DV-145	511174001	Receptacle Holder (A)	1	
DV-146	511175001	Receptacle Cover	1	
DV-147	507142001	Screw for Receptacle	2	
DV-148	402230001	Nut for DV-147	2	
DV-149	007671013	Screw for DV-145	1	
DV-150	106129001	Nut for DV-149	1	
DV-151	105123002	Screw for DV-145 (M711 & 713)	1	
DV-152	028350243	Spring Washer for DV-151	1	
DV-153	401881003	Screw for DV-102	2	
DV-154	402281002	Screw for "	1	
DV-155	513664001	Receptacle Holder (B) for VDE, SEV, NEMKO	1	
DV-156	005300814	Screw for Receptacle	2	
DV-157	101629001	" Holder	2	
DV-158	028350243	Spring Washer for DV-157	2	
DV-159~165	(514117001)	Condenser Holder Unit for VDE, SEV	1	
DV-159	514118001	Condenser Holder (B) for VDE, SEV	1	
DV-160	514119000	Condenser for VDE, SEV	1	
DV-161	514121000	Insulating Paper	1	
DV-162	550178001	Screw for DV-160	1	
DV-163	021260103	Nut for DV-162	1	



Circuit Diagram

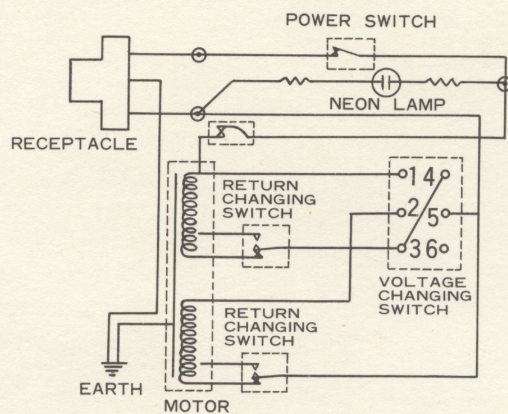


FIG.DV

This exploded view diagram illustrates the assembly of a mechanical component, likely a pump or motor. The parts are numbered as follows:

- 14**: A small cylindrical pin or plug.
- 211**: A bracket or arm with a hole.
- 212**: A small cylindrical pin or plug.
- 213**: A small cylindrical pin or plug.
- 210**: A bracket or arm with a hole.
- 219**: A bracket or arm with a hole.
- 220**: A small cylindrical pin or plug.
- 221**: A small cylindrical pin or plug.
- 216**: A small cylindrical pin or plug.
- 217**: A small cylindrical pin or plug.
- 218**: A small cylindrical pin or plug.
- 215**: A gear or impeller with multiple teeth.
- 255**: A small cylindrical pin or plug.
- 256**: A small cylindrical pin or plug.
- 234**: A bracket or arm with a hole.
- 232**: A small cylindrical pin or plug.
- 231**: A small cylindrical pin or plug.
- 233**: A small cylindrical pin or plug.
- 223**: A rectangular component, possibly a motor or actuator.
- 227**: A small cylindrical pin or plug.
- 222**: A small cylindrical pin or plug.
- 224**: A long, flexible cable or hose.
- 229**: A bracket or arm with a hole.
- 230**: A small cylindrical pin or plug.
- 231**: A small cylindrical pin or plug.
- 232**: A small cylindrical pin or plug.
- 233**: A small cylindrical pin or plug.
- 257**: A rectangular component, possibly a motor or actuator.
- 207**: A small cylindrical pin or plug.
- 204**: A bracket or arm with a hole.
- 203**: A bracket or arm with a hole.
- 206**: A bracket or arm with a hole.
- 209**: A small cylindrical pin or plug.
- 208**: A small cylindrical pin or plug.
- 241**: A bracket or arm with a hole.
- 242**: A small cylindrical pin or plug.
- 239**: A bracket or arm with a hole.
- 238**: A bracket or arm with a hole.
- 242**: A small cylindrical pin or plug.
- 240**: A bracket or arm with a hole.

[illegible]

PACKING MATERIAL

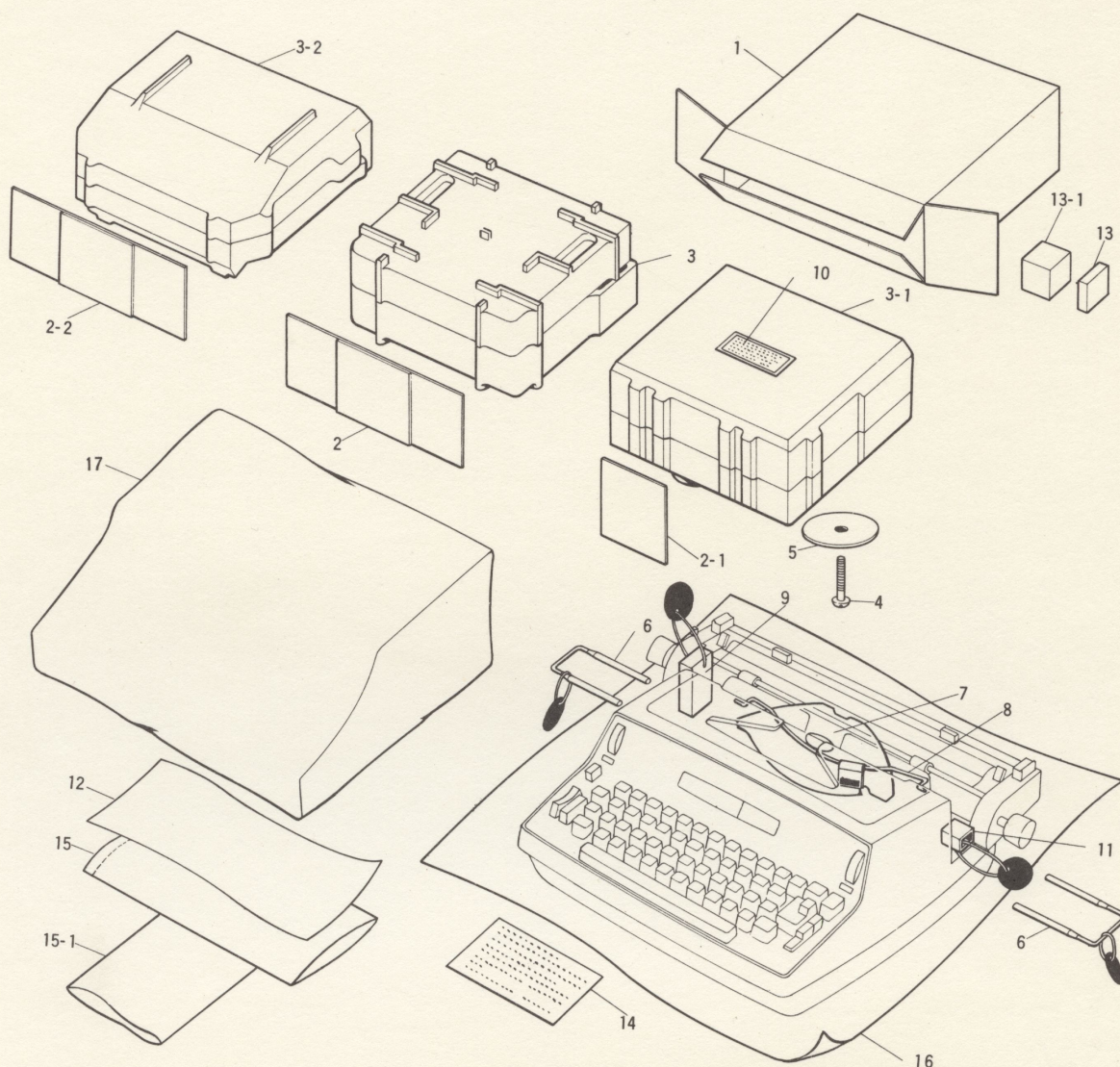


FIG. DW

REF.NO.	PART NO.	PART NAME	Q'TY	MEMO	REF.NO.	PART NO.	PART NAME	Q'TY	MEMO
DW-1	560602	Carton	1		DW-10	560549000	Care Label	2	
DW-1-1	560540	Carton for S1013D, 1010D, 1003D	1		DW-11	560516000	Pad for Carriage Release	1	
DW-1-2	560557	Carton for M711, 713	1		DW-12	560335000	Paper for Vapor Phase Inhibitor	1	
DW-1-3	560602030	Carton for Brillant Electric	1		DW-13	560541000	Pad for Platen (Full Electric)	2	
DW-2	560002078	Corrugated Cardboard for DW-1	2		DW-13-1	560558000	" (Semi Electric)	2	
DW-2-1	560001054	" for DW-1-1	2		DW-14	560465000	Motor Instruction Sheet	1	
DW-2-2	560002073	" for DW-1-2	2		DW-15	560030000	Polyvinyl Bag for Instruction Book, Vinyl Cover, Cord	3	
DW-3	560591000	Styrofoam Set for DW-1	1		DW-15-1	560468000	Polyvinyl Bag for Cord (220V~240V)	1	
DW-3-1	560537000	" for DW-1-1	1		DW-16	560605000	Polyvinyl Sheet for Body	1	
DW-3-2	560553000	" for DW-1-2	1		DW-17	511032001	Vinyl Cover for M6213	1	
DW-4	560102001	Screw for DW-3	2		DW-17-1	511031001	" for M6211	1	
DW-5	560103001	Washer for DW-3	2		DW-17-2	512894001	" for M713	1	
DW-6	560141000	Carriage Lock Plate	2		DW-17-3	512893001	" for M711	1	
DW-7	560564000	Type Bar Lock Plate	1		DW-17-4	510878001	" for S1013D, 1003D	1	
DW-8	560060000	Shipping Wire	1		DW-17-5	510679001	" for S1010D	1	
DW-9	560221000	Motor Cushion	1		DW-17-6	512898001	" for Brillant Electric	1	

ADJUSTING TOOL KIT FOR ELECTRIC TYPEWRITER



FIG. DX

REF.NO.	PART NO.	PART NAME	Q'TY	MEMO	REF.NO.	PART NO.	PART NAME	Q'TY	MEMO
DX-1		Box Driver (10 $\frac{1}{16}$ "	1		DX-13		Spring Driver	1	
DX-2		" (8 $\frac{1}{16}$ "	1		DX-14		Driver (A) 200 $\frac{1}{16}$ "	1	
DX-3		" (6 $\frac{1}{16}$ "	1		DX-15		Box Driver (4.5 $\frac{1}{16}$ "	1	
DX-4		Driver (75 $\frac{1}{16}$ "	1		DX-16		Driver (B) 200 $\frac{1}{16}$ "	1	
DX-5		Plus Driver	1		DX-17		Plier	1	
DX-6		Hook for Spring	1		DX-18		Pincette	1	
DX-7		Box Spanner (6 $\frac{1}{16}$ " x 4.5 $\frac{1}{16}$ "	1		DX-19		Hexagonal Wrench (1.4 $\frac{1}{16}$ "	1	
DX-8		Spanner (6 $\frac{1}{16}$ " x 4.5 $\frac{1}{16}$ "	1		DX-20		" (2.0 $\frac{1}{16}$ "	1	
DX-9		" (11 $\frac{1}{16}$ " x 9 $\frac{1}{16}$ "	1		DX-21		Grip for DX-19, 20	1	
DX-10		" (10 $\frac{1}{16}$ " x 8 $\frac{1}{16}$ "	1		DX-22		Type Bar Adjusting Tool	1	
DX-11		" (14 $\frac{1}{16}$ " x 12 $\frac{1}{16}$ "	1		DX-23		Tool Carrying Bag	1	
DX-12		Driver (70 $\frac{1}{16}$ "	1						

ELECTRIC TYPEWRITER

SERVICE MANUAL

MODEL JP2

I N D E X

1. Removing Cover	1
2. Motor Drive	2
3. Switch and Shift Front Lock	3
4. Printing Mechanism	4
5. Escapement	7
6. Shift Mechanism	9
7. Shift Lock	13
8. Space Bar	14
9. Space Repeat	16
10. Half Space	17
11. Back Space	18
12. Chassis (Rear) Adjustment	20
13. Margin Stop	21
14. Carriage Return	23
15. Tabulator	27
16. Governor	30
17. Tab Set—Clear	31
18. Ribbon Vibration & Color Change	33
19. Ribbon Feed and Ribbon Reverse	35
20. Margin Release	37
21. Touch Control	38
22. Copy Control	39
23. Carriage	40
24. Line Space	42
25. Paper Release & Paper Feed	44
26. Carriage Release	45
27. Warning Bell	46

1. REMOVING COVER

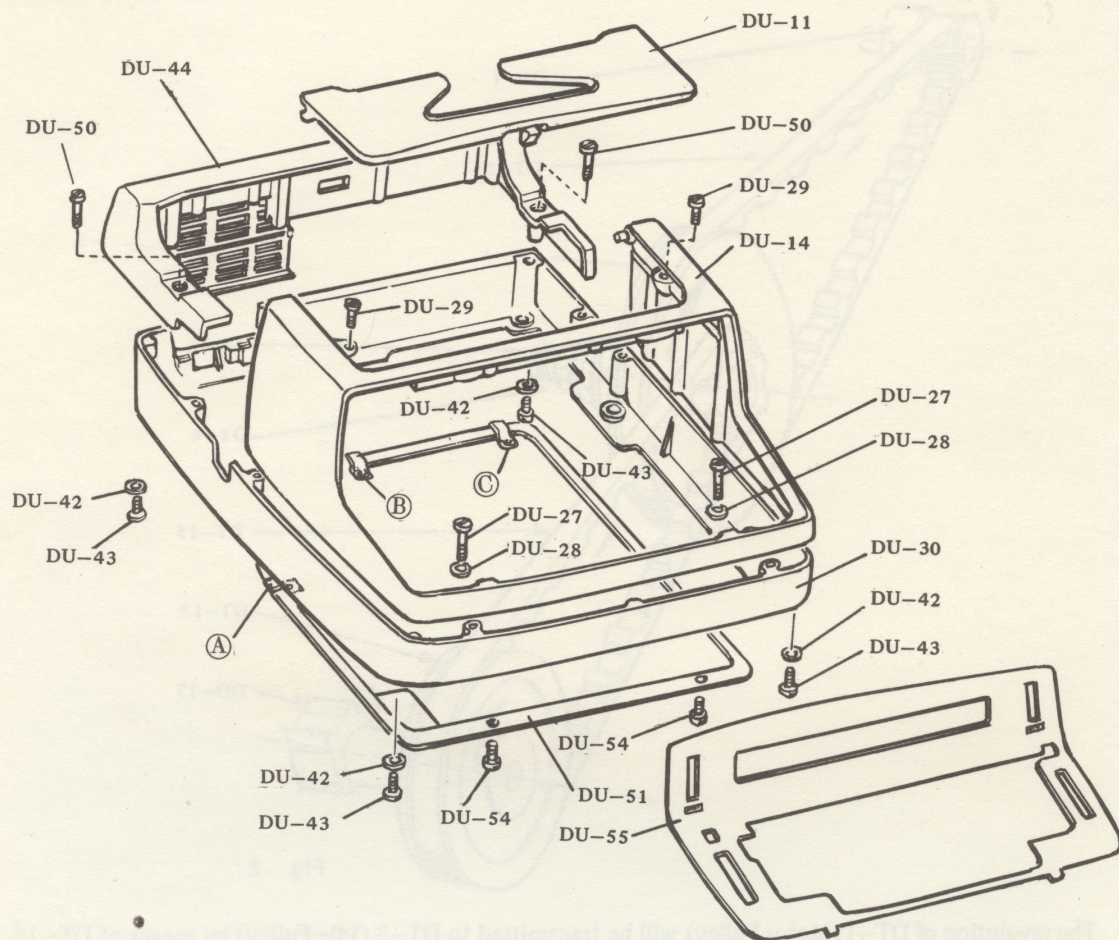


Fig. 1

- (1) Pull DU-11 (Top Cover) upward to snap-off.
 - (2) Push the arrow head portion of DU-55 (Panel) from rear side to snap-off.
 - (3) Loosen DU-29 (Screw) and DU-27 (Screw), and remove DU-14 (Upper Cover).
 - (4) Loosen DU-50 (Screw), and remove DU-44 (Rear Cover).
 - (5) Loosen DU-43 (Screw), and remove DU-30 (Lower Cover).
 - (6) To remove DU-51 (Bottom Plate) only, loosen DU-54 (Screw) and remove DU-51.
- In this case, care should be taken for three (3) Stop Plates A, B and C.

2. MOTOR DRIVE

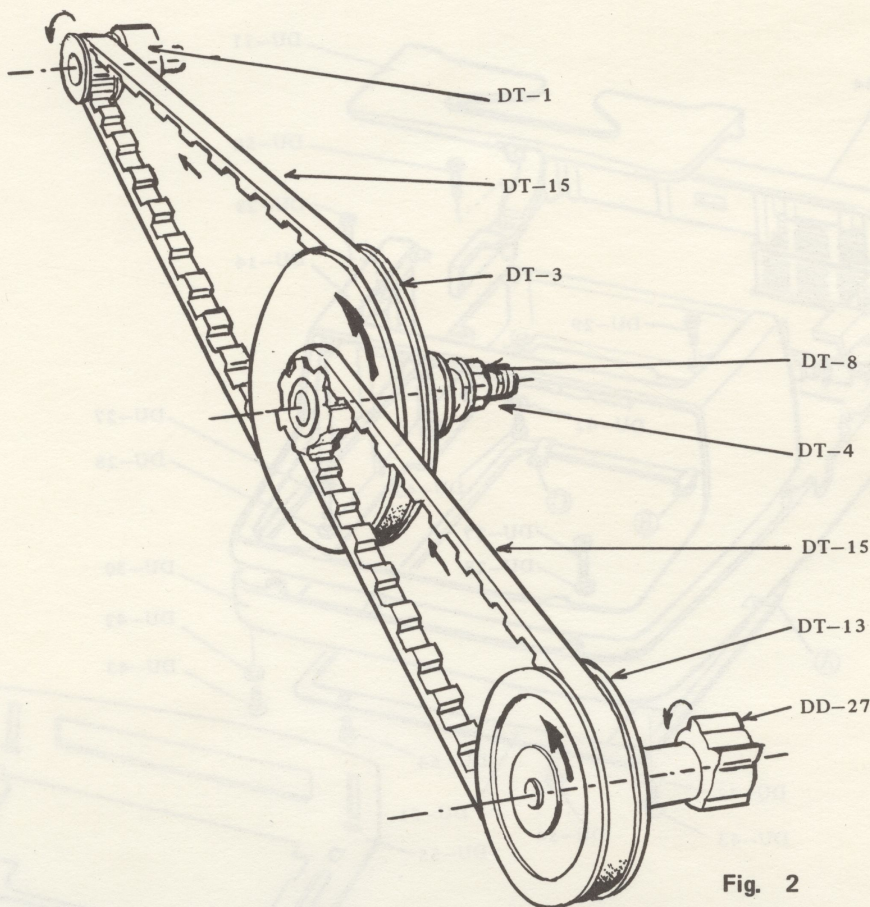


Fig. 2

The revolution of DT-1 (Motor Pulley) will be transmitted to DT-3 (Idle Pulley) by means of DT-15 (Timing Belt), and further transmitted to DD-27 (Snatch Roll) via DT-13 (Snatch Roll Pulley) by means of DT-15. (Fig. 2)

ADJUSTMENT

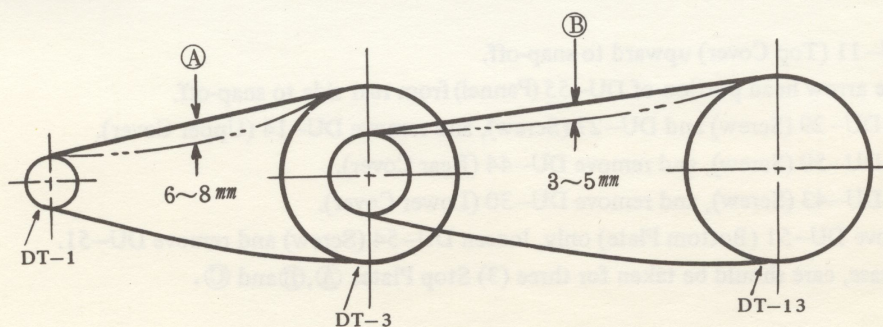


Fig. 3

Excessive tension of DT-15 may result difficulty in starting, on the contrary extreme looseness may result unevenly printing or motor stopping.

Therefore in the adjustment of DT-15, the belt tension should be adjusted by loosening DT-8 (Nut) and shifting DT-4 (Idle Shaft) and DT-3 (Idle Pulley) up and down and/or back and forth to obtain the correct tension. (Fig. 2)

The most desirable tension is to be provided deflection of the Belt such as 6 to 8 mm in the Motor side and 3 to 5 mm in the Snatch Roll side with applying 100 g of dead-weight at the center portion of the Belt as shown in the drawing. (Fig. 3).

3. SWITCH AND SHIFT FRONT LOCK

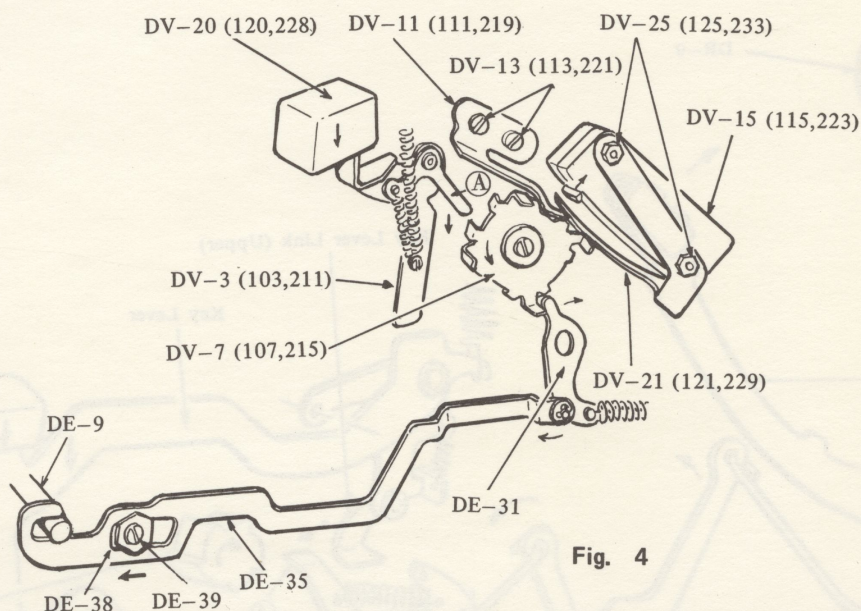


Fig. 4

The function of the mechanism is to prevent inoperative condition due to jamming of the Motor caused by depressing the Shift Key under not at constant revolution of the Motor immediately after Switch on or Switch off operation.

When DV-20 (Switch Button) is depressed, the A portion of DV-3 (Switch Lever Unit) will push DV-7 (Switch Rotor), resulting rotating DV-7. DE-21 (Micro Switch Actuator) will be pushed up by DV-7, and the Switch will be placed ON position. Furthermore DE-31 (Shift Front Lock Plate) will be pushed by DV-7 and DE-35 (Shift Front Lock Arm) will be disengaged from DE-9 (Driving Rod), resulting releasing Shift Front Lock. (Fig. 5)

ADJUSTMENT

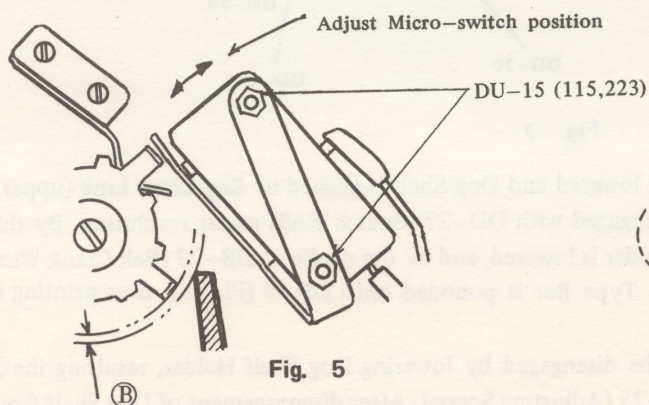


Fig. 5

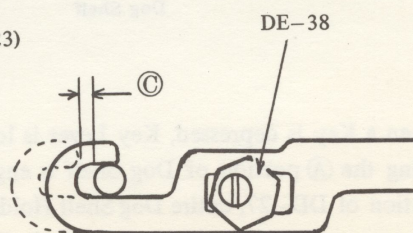


Fig. 6

- (1) Adjust the position of DV-15 (Micro Switch) by loosening DV-25 (Screw) so that DV-7 (Switch Rotor) sufficiently pushes up DV-21 (Micro Switch Actuator) to make positive switch on condition. Care should be taken not to place DV-15 excessively close position with DV-7 because this situation may result heavy revolution of DV-7.
- (2) Adjust the positions of DV-11 (Pressure Spring) and DE-31 (Shift Front Lock Plate) to obtain smooth moving of the Switch.
 - a) Adjust the spring pressure of DV-11 by loosening DV-13 (Screw).
 - b) Revolution of DV-7 may be stuck if the clearance B between DV-7 and DE-31 is too narrow when DE-35 (Shift Front Lock Arm) is moved to the end by hand, consequently sufficient clearance should be provided by bending DE-31. But care should be taken not to provide the clearance B excessively because excessive clearance may result in sufficient amount of relief C of DE-35 from DE-9 when the Switch is turned on. (Fig. 5, 6)
 - c) Adjust the related position in height between DE-35 and DE-9 (Driving Rod) with DE-38 (Eccentric Collar) so that DE-35 will smoothly catch DE-9. (Fig. 6)

4. PRINTING MECHANISM

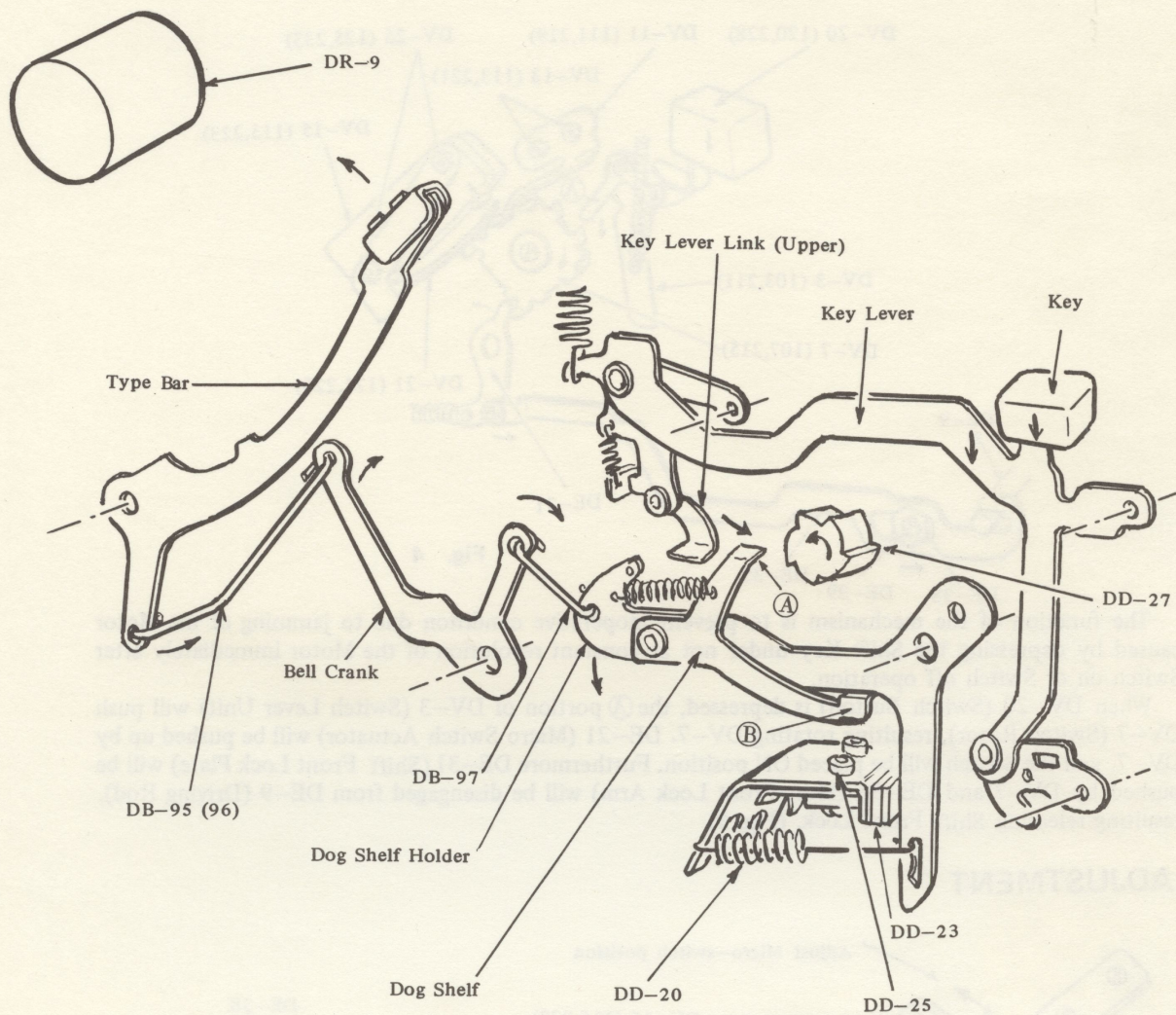


Fig. 7

When a Key is depressed, Key Lever is lowered and Dog Shelf is pushed by Key Lever Link (upper), resulting the (A) portion of Dog Shelf is engaged with DD-27 (Snatch Roll) under revolution. By this revolution of DD-27, entire Dog Shelf Holder is lowered, and by the media of DB-27 (Bell Crank Wire), Bell Crank and DB-95 (Type Bar Wire), Type Bar is pounded onto DR-9 (Platen), then printing is accomplished.

Dog Shelf engaged with DD-27 will be disengaged by lowering Dog Shelf Holder, resulting the (B) portion of Dog Shelf touches against DD-25 (Adjusting Screw). After disengagement of Dog Shelf from DD-27, the entire Dog Shelf Holder will be returned to the original position by the action of DD-20 (Spring) and a cycle of printing is accomplished. (Fig. 7)

ADJUSTMENT

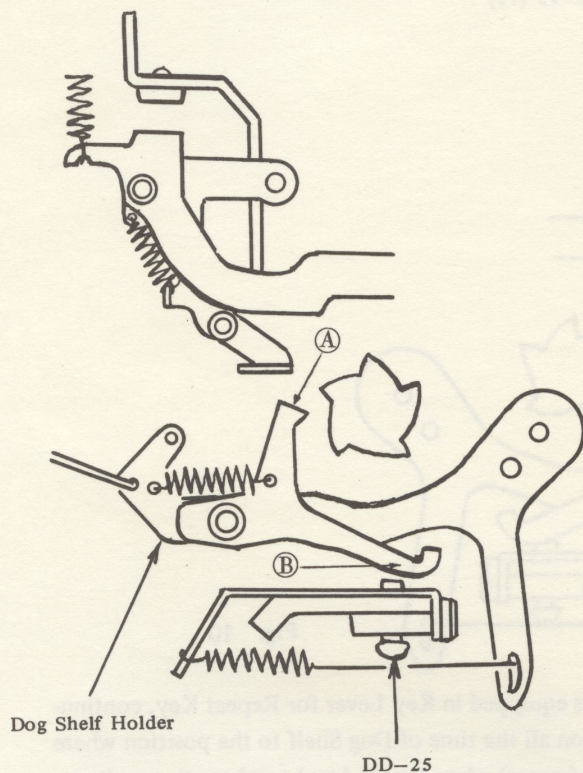


Fig. 8

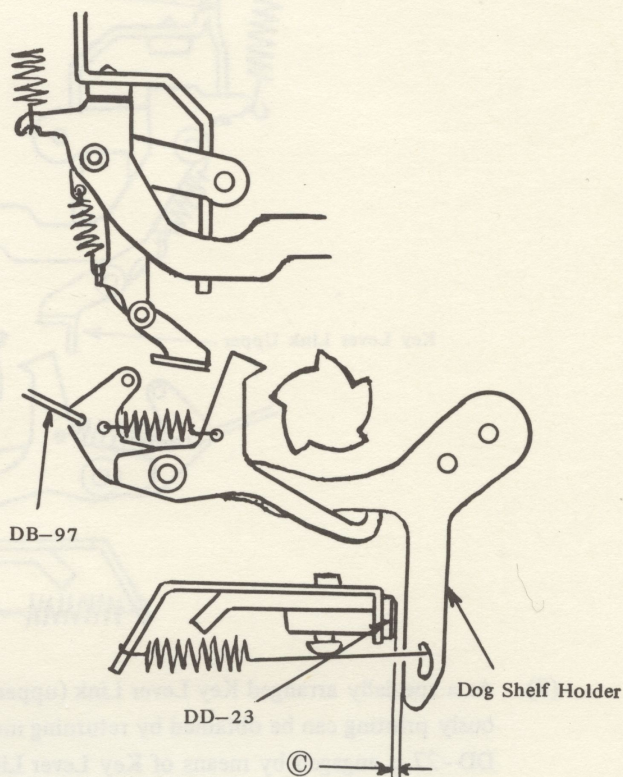


Fig. 9

- (1) Adjust forced driving momentum of Type Bar for proper shade of color in typing by means of DD-25 (Adjusting Screw).
 - a) Excessively dark color of printed characters
The forced driving momentum is too strong, consequently rotate DD-25 clockwise to advance the timing which the **B** portion of Dog Shelf Holder touches DD-25. (Fig. 8)
 - b) Too lightly printed characters
The forced driving momentum is too weak, consequently rotate DD-25 counterclockwise to retard the timing which the **B** portion of Dog Shelf Holder touches DD-25. (Fig. 8)
- (2) If there is a gap **C** between Dog Shelf Holder and DD-23 (Cushion Plate), height of Dog Shelf Holder may be uneven, resulting uneven printed characters.
Adjustment to remove gap **C** can be done by bending DB-95, 96 (Type Bar Wire) to shorten, but excessively shortening may result uneven row of Type Bar on DA-66 (Type Bar Rest), which should be avoided. (Fig. 9)

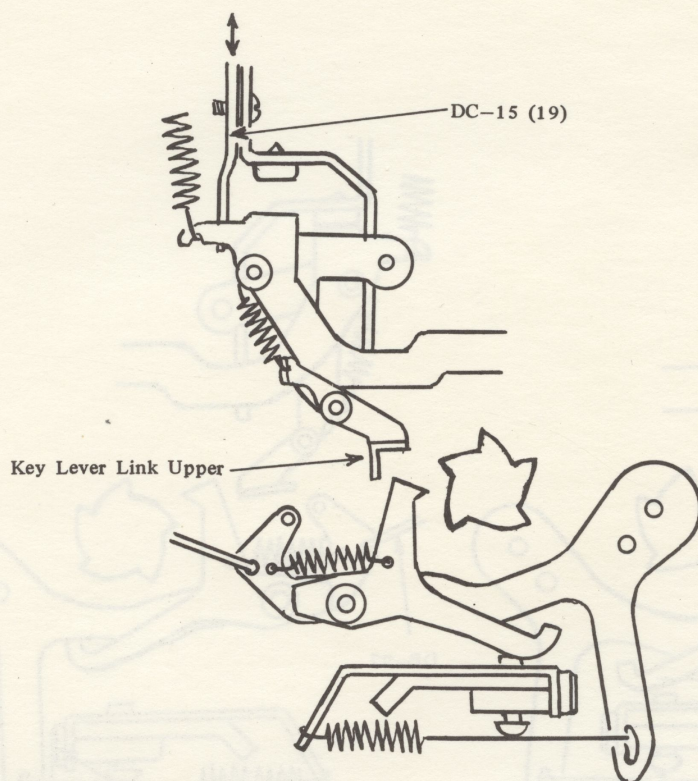


Fig. 10

- (3) As a specially arranged Key Lever Link (upper) is equipped in Key Lever for Repeat Key, continuously printing can be obtained by returning motion all the time of Dog Shelf to the position where DD-27 is engaged by means of Key Lever Link (upper) when Key is deeply and continuously depressed. If unevenly repeating speed is experienced by more or less depressing action for Key, adjust DC-15 or 19 (Repeat Key Lever Stopper) by shifting up and down to obtain the correct speed. (Fig. 10)

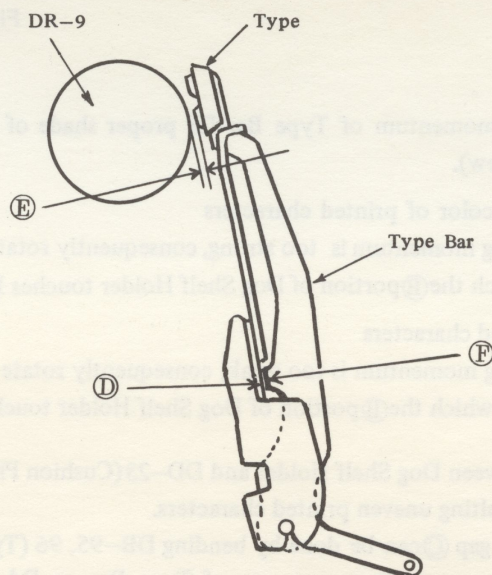


Fig. 11

- (4) The desirable clearance ① between DR-9 (Platen) and Type when Type, Bar is depressed by hand until clearance ② is disappeared, is 0.05 to 0.2 mm. However 0.3 to 0.4 mm of clearance is desirable for small size character (such as comma, period and hyphen etc. for example), consequently adjust for correct clearance by battering the ③ portion of Type Bar or by scraping off the ③ portion for excessive said clearance. (Fig. 11)

ADJUSTMENT

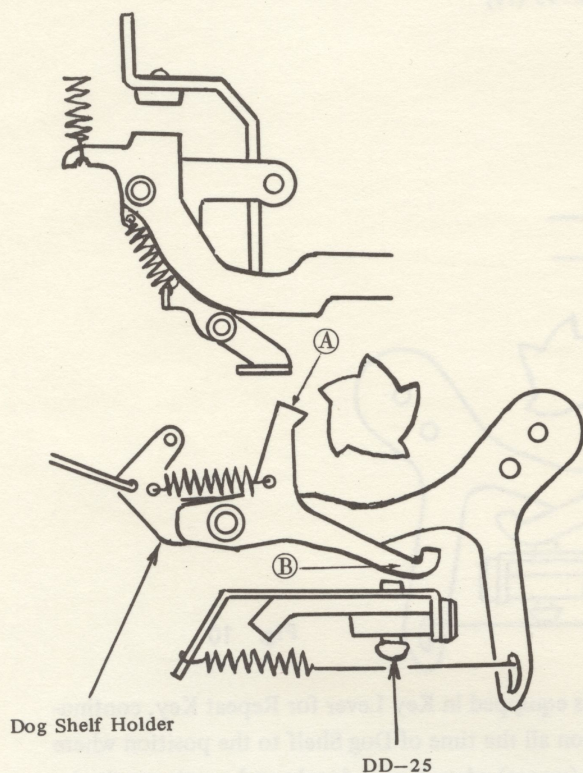


Fig. 8

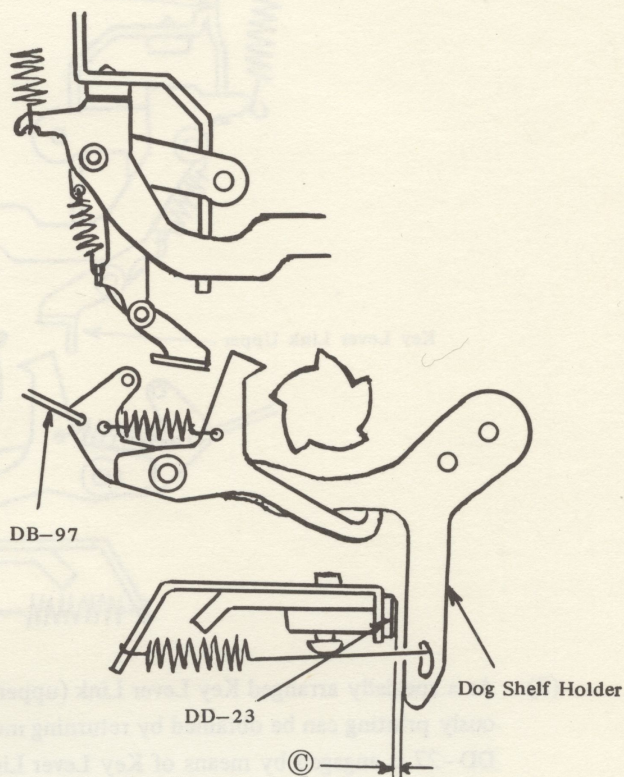


Fig. 9

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The forced driving momentum is too strong, consequently rotate DD-25 clockwise to advance the timing which the **B** portion of Dog Shelf Holder touches DD-25. (Fig. 8)
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The forced driving momentum is too weak, consequently rotate DD-25 counterclockwise to retard the timing which the **B** portion of Dog Shelf Holder touches DD-25. (Fig. 8)
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Adjustment to remove gap **C** can be done by bending DB-95, 96 (Type Bar Wire) to shorten, but excessively shortening may result uneven row of Type Bar on DA-66 (Type Bar Rest), which should be avoided. (Fig. 9)

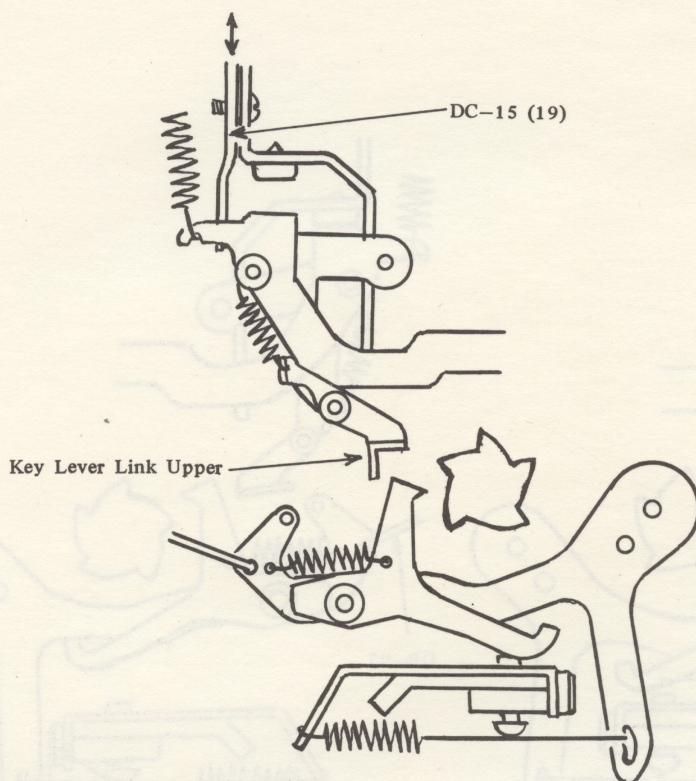


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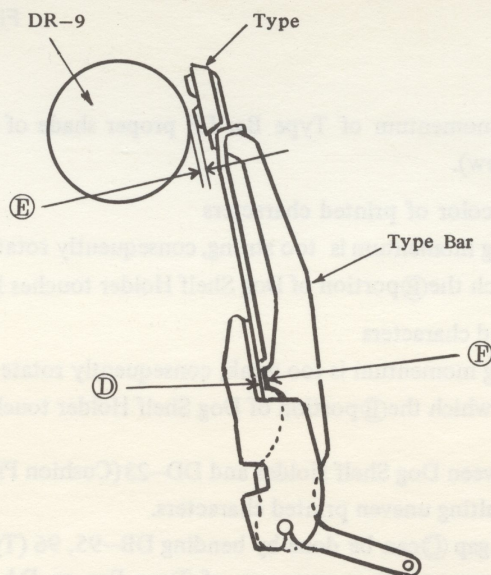


Fig. 11

- (4) The desirable clearance ① between DR-9 (Platen) and Type when Type, Bar is depressed by hand until clearance ② is disappeared, is 0.05 to 0.2 mm. However 0.3 to 0.4 mm of clearance is desirable for small size character (such as comma, period and hyphen etc. for example), consequently adjust for correct clearance by battering the ② portion of Type Bar or by scraping off the ② portion for excessive said clearance. (Fig. 11)

5. ESCAPEMENT

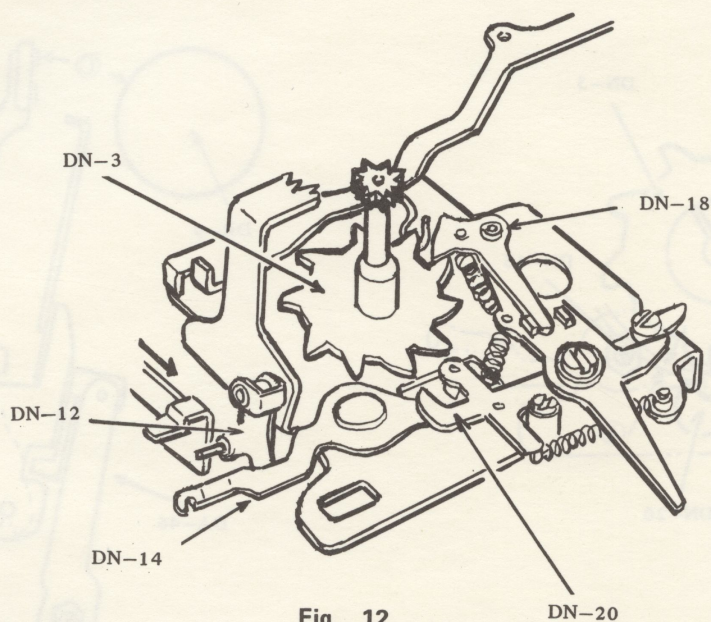


Fig. 12

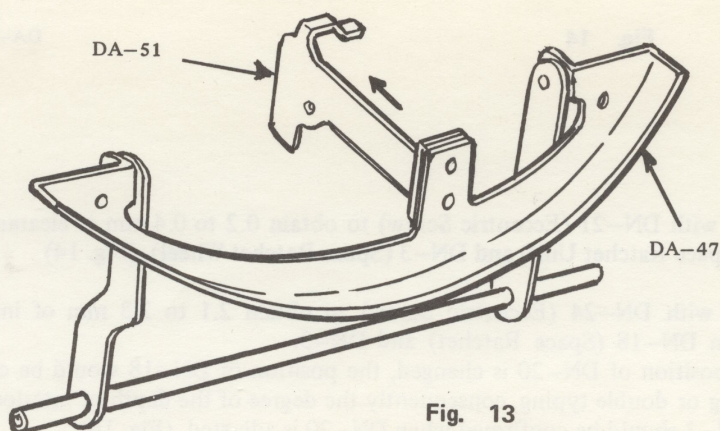


Fig. 13

DA-47 (Escapement Drive Plate) in DA-74 (Sector Plate) is pushed by Type Bar, and DA-51 (Universal Bar) pushes DN-20 (Half Space Ratchet Unit) through the media of DN-12 (Escape Crank: Front) and DN-14 (Escape Crank: Rear). DN-20 moves to the position where engages with DN-3 (Space Ratchet Wheel) with removing DN-18 (Space Ratchet) from DN-3, and rotates until DN-3 touches to DN-20 when DN-18 is disengaged.

As Type Bar returns toward DA-66 (Type Bar Rest), DN-20 is disengaged from DN-3 and rotated to the place where DN-3 is stopped by DN-18, then the Carriage moves on 1 pitch. (Fig. 12, 13)

ADJUSTMENT

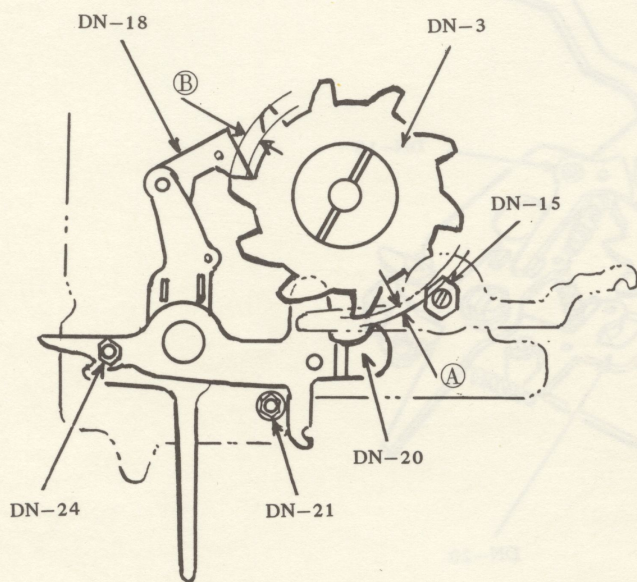


Fig. 14

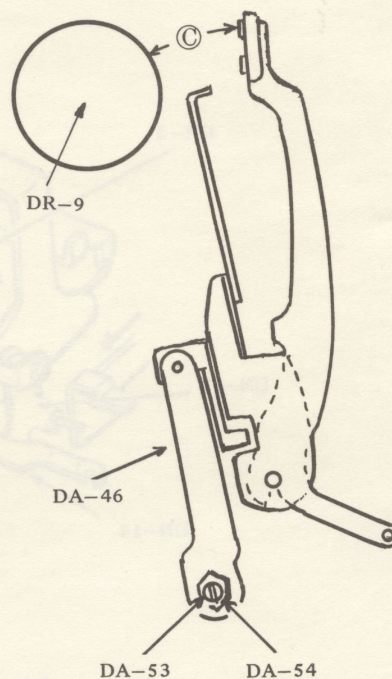


Fig. 15

- (1) Adjust with DN-21 (Eccentric Screw) to obtain 0.2 to 0.4 mm of clearance (A) between DN-20 (Half Space Ratchet Unit) and DN-3 (Space Ratchet Wheel). (Fig. 14)
- (2) Adjust with DN-24 (Eccentric Screw) to obtain 2.1 to 2.3 mm of interlocking deepness (B) between DN-18 (Space Ratchet) and DN-3.
If the position of DN-20 is changed, the position of DN-18 would be changed, resulting type skipping or double typing, consequently the degree of the depth of interlocking between DN-18 and DN-3 should be confirmed when DN-20 is adjusted. (Fig. 14)
- (3) Adjust with DN-15 (Eccentric Screw) to accomplish escapement of the Carriage when every type bar (left, right and center) reaches to the position (C) located at 0.5 to 5.0 mm from the surface of DR-9 (Platen) with operating the type bar by hand. (Fig. 15)
- (4) Adjust the position of DA-46 (Escapement Drive Link) by moving left and right with DA-53 (Center Screw) after loosening DA-54 (Nut) so that the differences of the timing of escapement among each Type Bar in a same machine is within 3.0 mm.
In this case, care should be taken against excessive lateral play in DA-46 to eliminate timing lag for escapement. And make sure smooth operation. (Fig. 15)

6. SHIFT MECHANISM

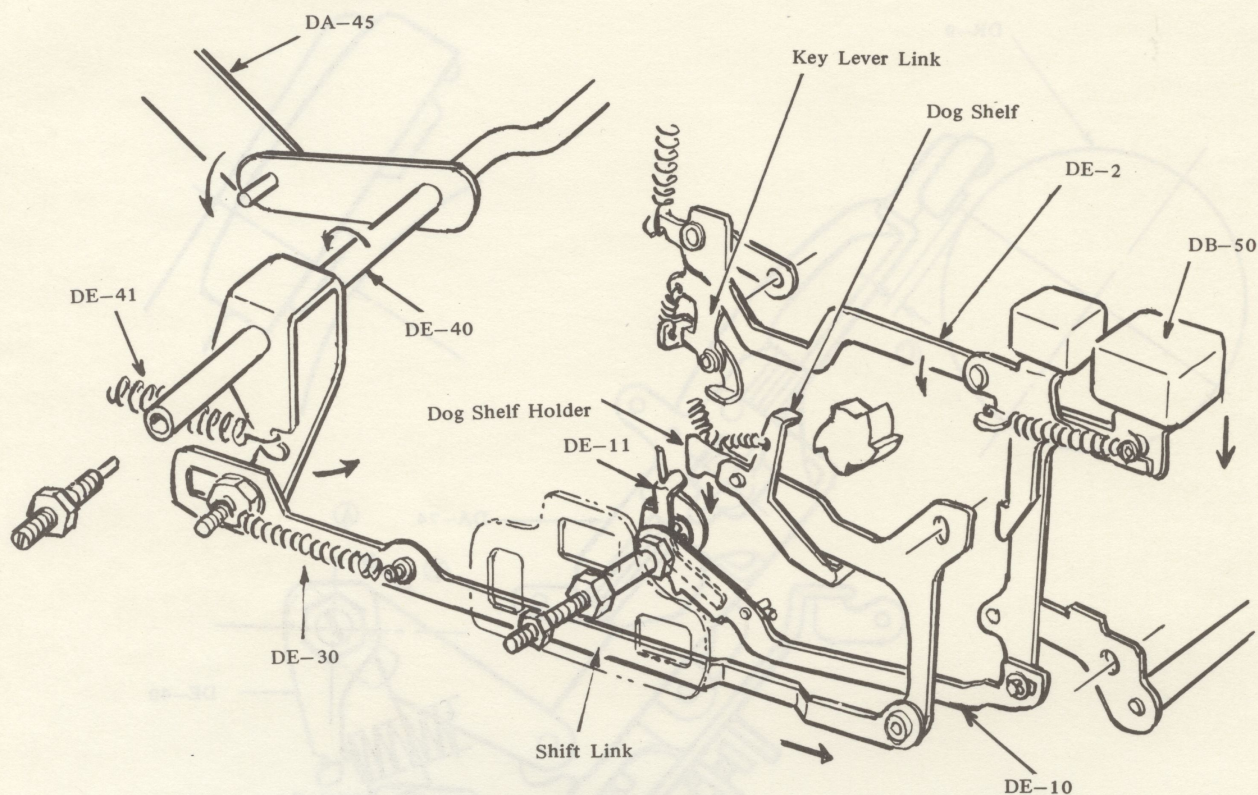


Fig. 16

When DB-50 (Shift Key) is depressed, DE-2 (Shift Key Lever) is lowered, DE-10 (Driving Plate) is pressed down, and DE-11 (Shift Auto-Locker Plate) is shifted to the place where engaged with Dog Shelf Holder. By lowering DE-2, Key Lever Link (upper) will push Dog Shelf and engage with DD-27 (Snatch Roll) under revolution. By the revolution of DD-27, entire Dog Shelf Holder will be lowered until engaging with DE-11 and held in the position.

As lowering Dog Shelf Holder, DE-40 (Shift Link Rod) will be rotated by the media of Shift Link and DE-30 (Spring) and lowers and shifts DA-45 (Sector Plate Holder) overriding DE-41 (Balance Spring). When let off hand from DB-50 (Shift Key), DE-2 is raised up and Dog Shelf Holder is disengaged from DE-11, DE-40 and DA-45 are returned to the original position by DE-41, and Dog Shelf is also returned to the original position. (Fig. 16)

ADJUSTMENT

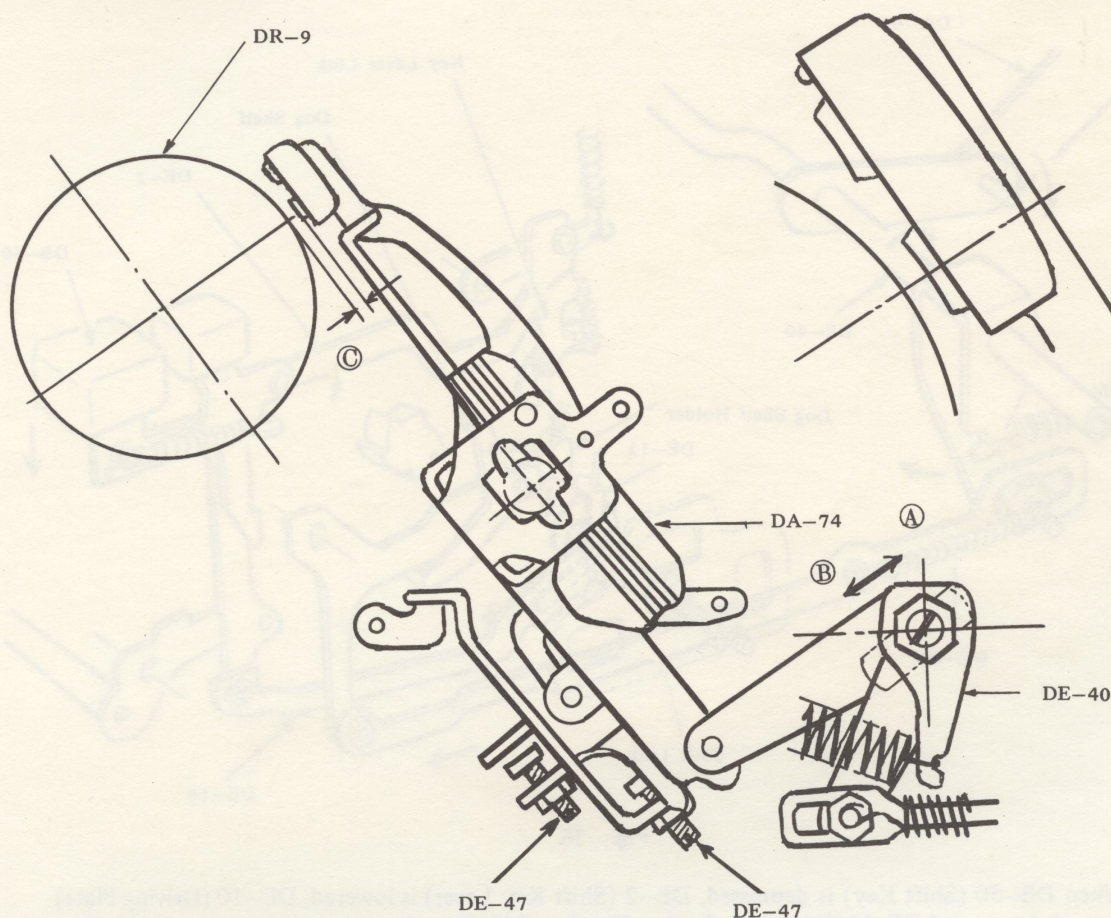


Fig. 17

- (1) Adjust the clearance (C) between Type (H is the basic character) and DR-9 (Platen) to obtain 0.05 to 0.20 mm by shifting DE-40 (Shift Link Rod) to (A) or (B) direction under Non-Shift condition. Adjust in the (A) direction for excessive clearance (C) causing thin printing and in the (B) direction for short clearance (C) causing dark printing. (Fig. 17)
- (2) Adjust typing surface and curvic surface of DR-9 with DE-47 (Screw) to obtain even printing all over upper and lower portion of typed character under Non-Shift condition. (Fig. 17)
- (3) With lowering DA-74 (Sector Plate) by hand, adjust lowering distance of DA-74 and DE-47 so as to align the bottom lines of capital letter "H" and small letter "h" when they are typed. DA-74 should not be depressed excessively in this adjustment. (Fig. 17)

6. SHIFT MECHANISM

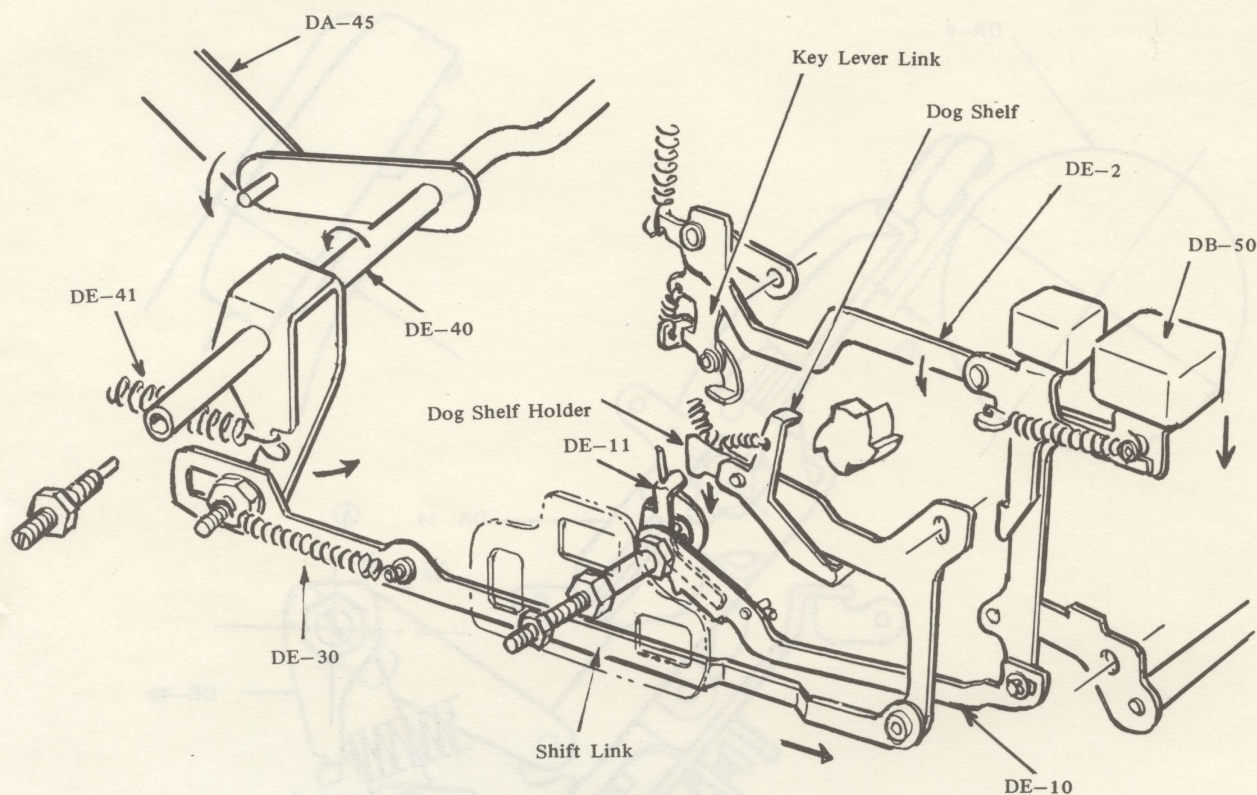


Fig. 16

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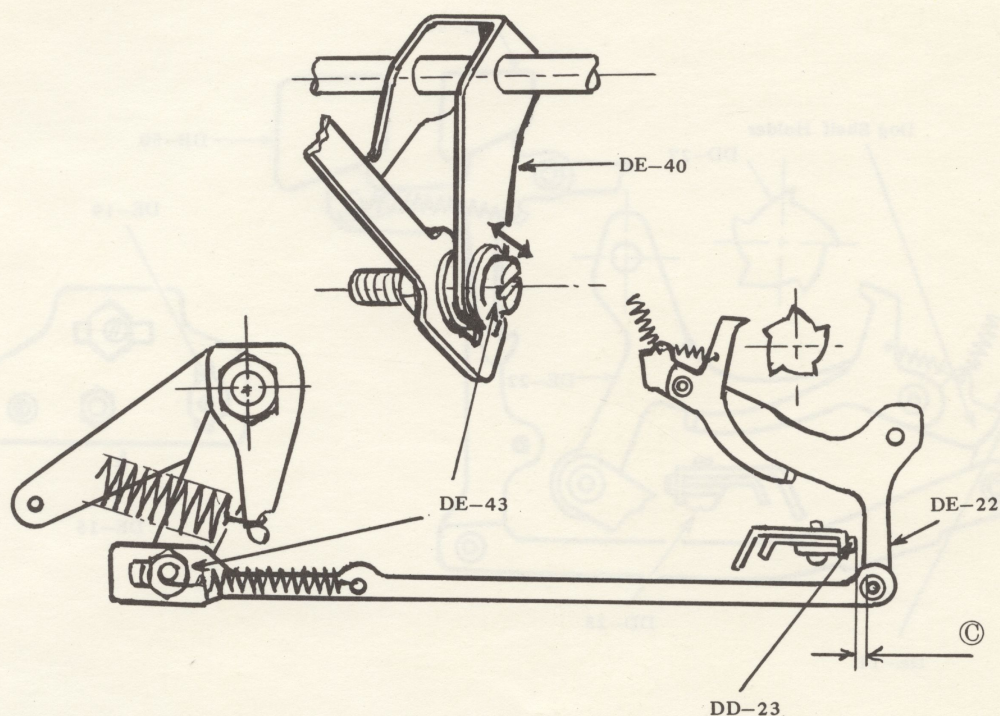


Fig. 18

- (4) With lowering DE-43 (Screw) adjust the clearance © between DE-22 (Shift Dog Shelf Holder) and DD-23 (Cushion Plate) to obtain 0.5 to 1.1 mm. (Fig. 18)

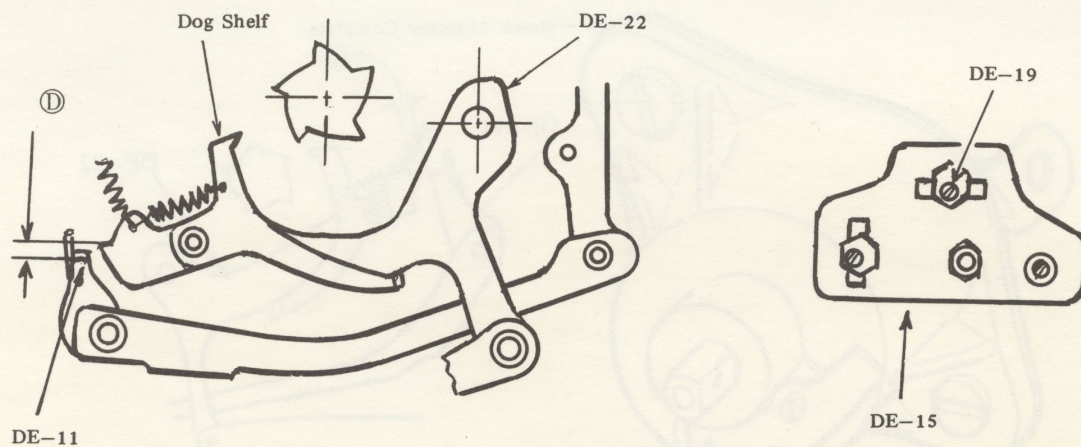


Fig. 19

- (5) When depress DA-74 (Sector Plate) by hand, adjust the position of DE-11 (Shift Auto-Locker Plate) by DE-19 (Eccentric Collar) of DE-15 (Holder for DE-11) to obtain 0.3 to 0.5 mm of dimension ① from the tip of DE-22 to DE-11 (Shift Auto-Locker Plate). (Fig. 19)

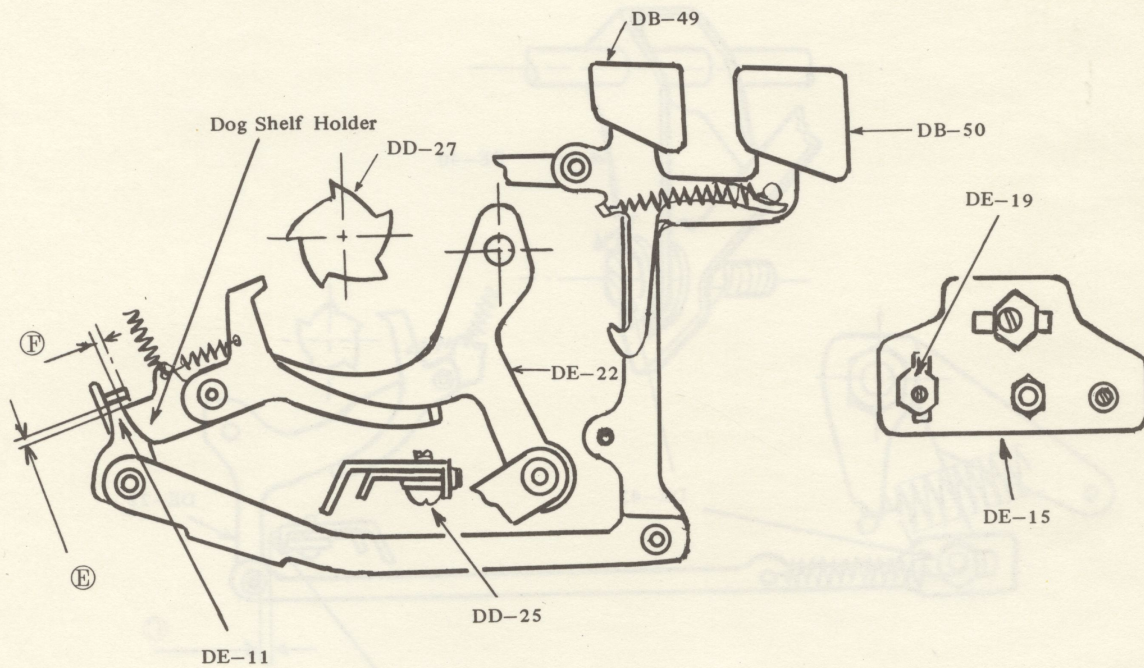


Fig. 20

- (6) When DD-27 (Snatch Roll) is rotated by hand and DB-50 (Shift Key) is depressed, adjust the degree of driving force of Dog Shelf by DD-25 (Adjustment Screw) to obtain the degree of over-run^F of DE-22 against DE-11 as 0.2 to 0.4 mm. (Fig. 20).
- (7) Adjust the position of DE-15 by DE-19 to obtain the degree of interlocking^F between DE-22 and DE-11 as 0.5 to 1.1 mm. When press down DA-74 by hand in this case, the clearance^G between DE-22 and DE-11 should be 0.1 to 0.3 mm. (Fig. 20,21)

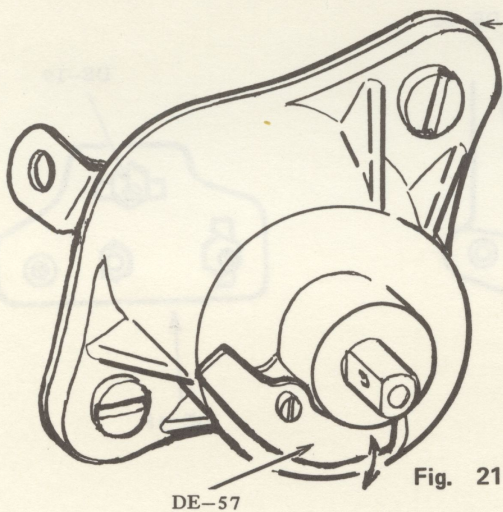


Fig. 21

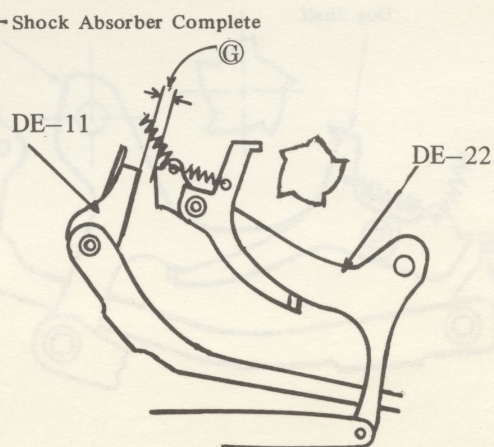


Fig. 22

- (8) Adjust the correct operation of the Shock Absorber by changing the position of DE-57 (Control Plate).
In this case, care should be taken to eliminate delay to lowering timing of DA-74 when operate DB-50 because of excessive effect of the Shock Absorber. (Fig. 22)

7. SHIFT LOCK

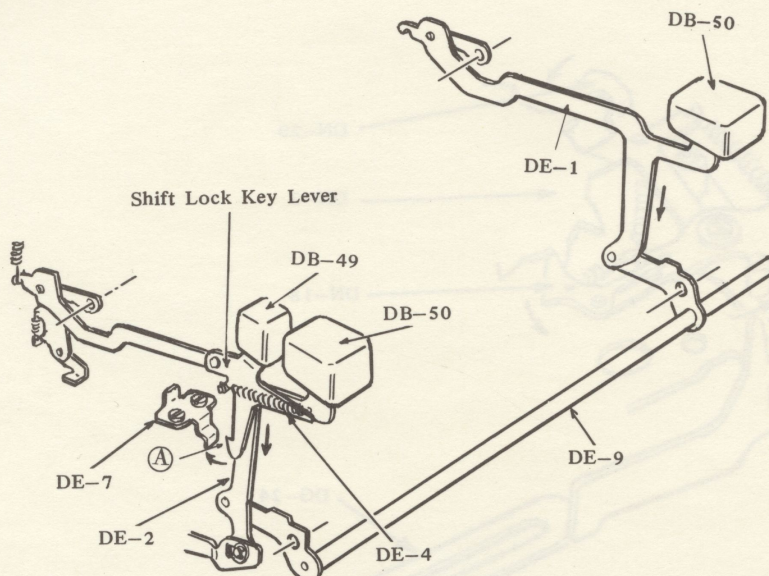


Fig. 23

When DB-49 (Shift Lock Key) is depressed, Shift Lock Key Lever is simultaneously lowered with DE-2 (Shift Key Lever Unit: left) after a little rotating motion, the ① portion of Shift Lock Key Lever is engaged with DE-7 (Shift Lock Plate), and DE-2 will be positioned in shifting condition.

As DE-1 (Shift Key Lever Unit: right) and DE-2 are interconnected by DE-9 (Driving Rod), if either DB-50 (right and left) is depressed, a scope will be generated at the place where Shift Lock Key Lever and DE-7 are engaged, Shift Lock Key Lever is released from DE-7 and Shift Lock will be released. (Fig. 23)

ADJUSTMENT

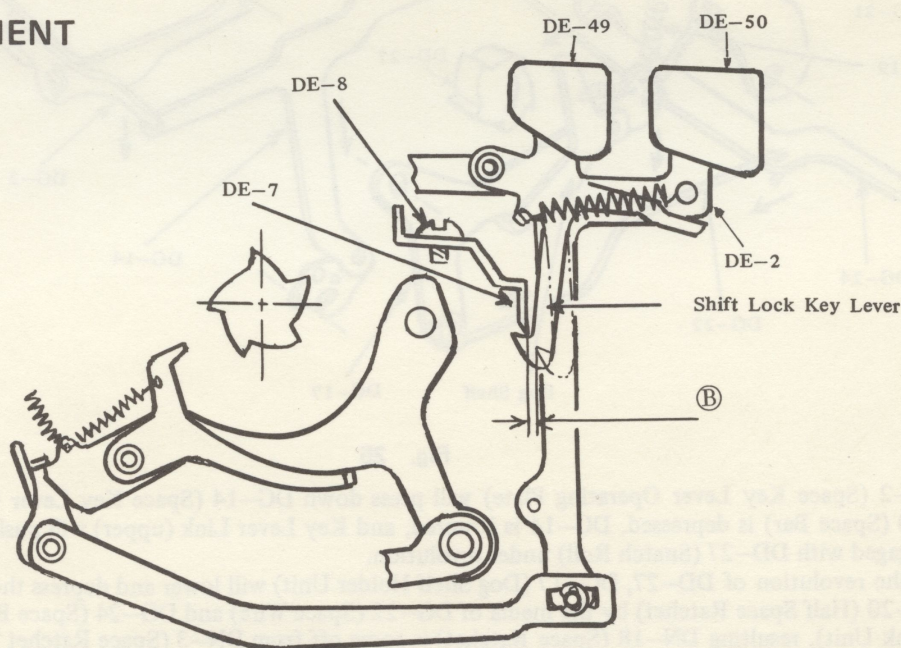


Fig. 24

Excessive clearance ② between Shift Lock Key Lever and DE-7 (Shift Lock Plate) may result coming off of Shift Lock by vibration during typing operation, and too narrow clearance may result no Shift Lock releasing, therefore adjustment to obtain correct clearance should be made by loosening DE-8 (Screw) and shifting the position of DE-7 back and forth.

In this adjustment, care should be taken to eliminate malfunction due to disturbance of DE-7 against (Shift Key Lever Unit: left) and DF-29 (Back Space Key Lever). (Fig. 24)

8. SPACE BAR

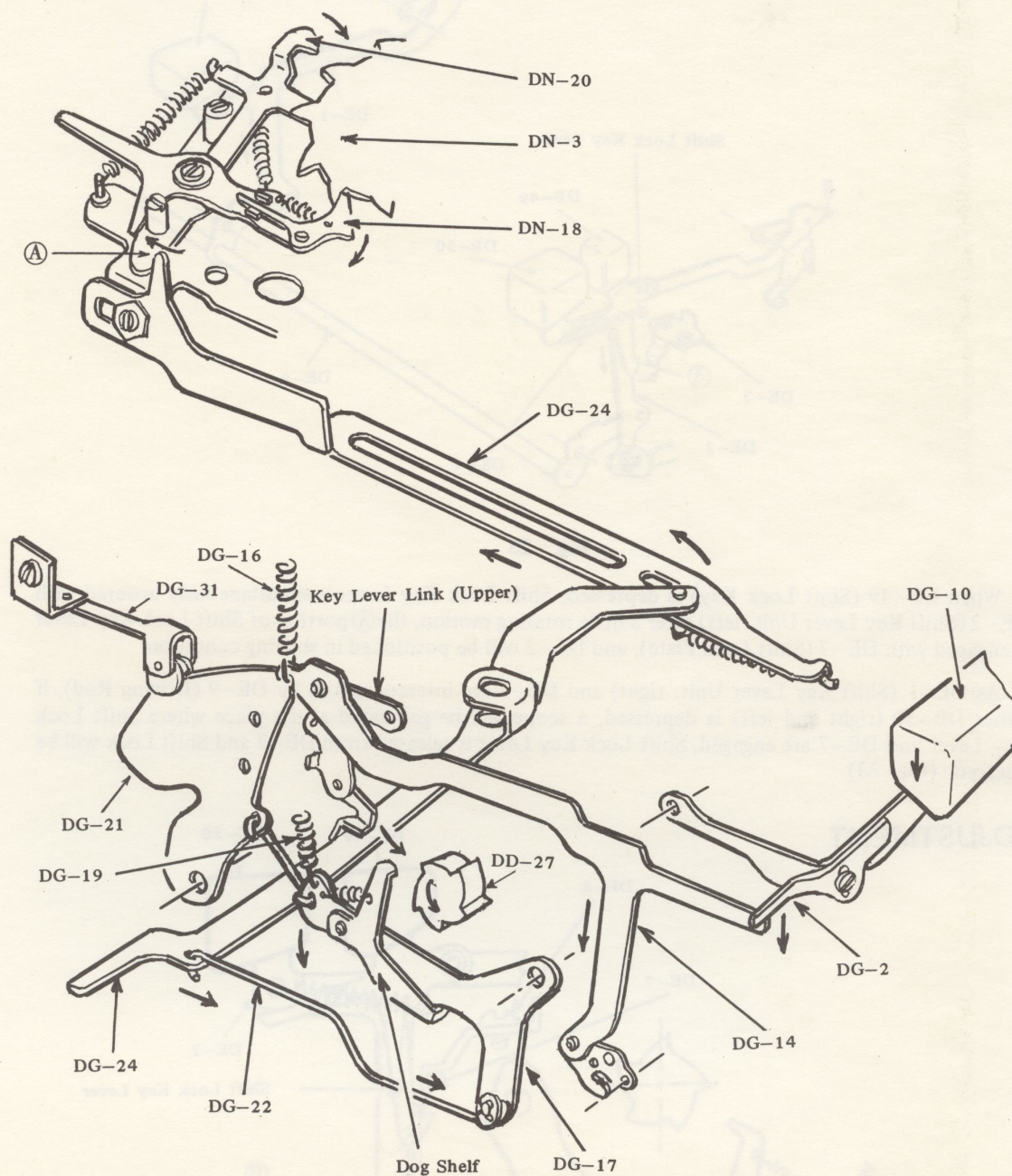


Fig. 25

DG-2 (Space Key Lever Operating Plate) will press down DG-14 (Space Key Lever Unit) when DG-10 (Space Bar) is depressed. DG-14 is lowered, and Key Lever Link (upper) will push Dog Shelf and engaged with DD-27 (Snatch Roll) under revolution.

By the revolution of DD-27, DG-17 (Dog Shelf Holder Unit) will lower and depress the ④ portion of DN-20 (Half Space Ratchet) by the media of DG-22 (Space Wire) and DG-24 (Space Bar Connecting Link Unit), resulting DN-18 (Space Ratchet) is come off from DN-3 (Space Ratchet Wheel) and Carriage is escaped half space. (Fig. 25)

ADJUSTMENT

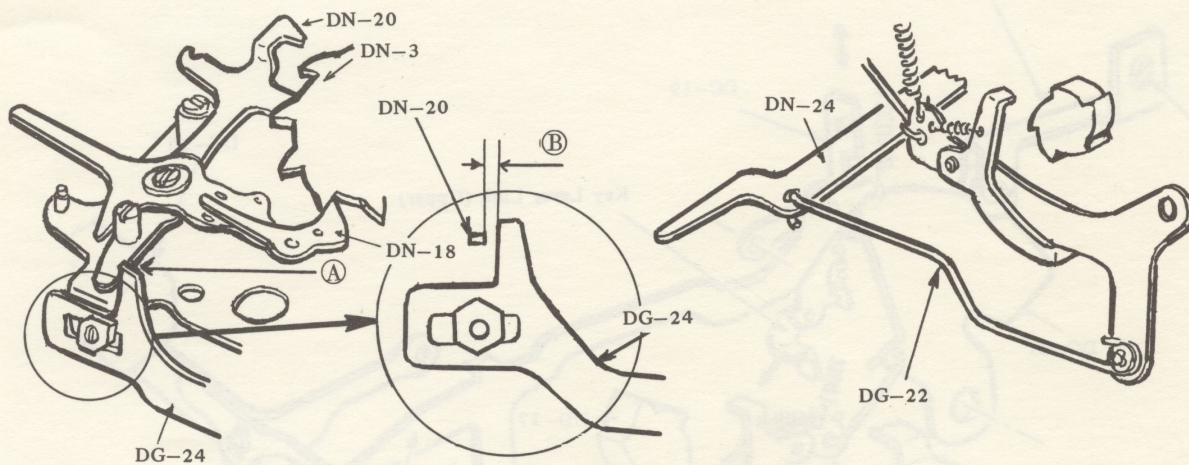


Fig. 26

- (1) Adjust the clearance ② between DG-24 (Space Bar Connecting Link Unit) and DN-20 (Half Space Ratchet) to obtain 0.1 to 0.3 mm by bending DG-22.
Too narrow clearance ② may result repeating by Space Bar, and excessive clearance may result missing of Escape. (Fig. 26)

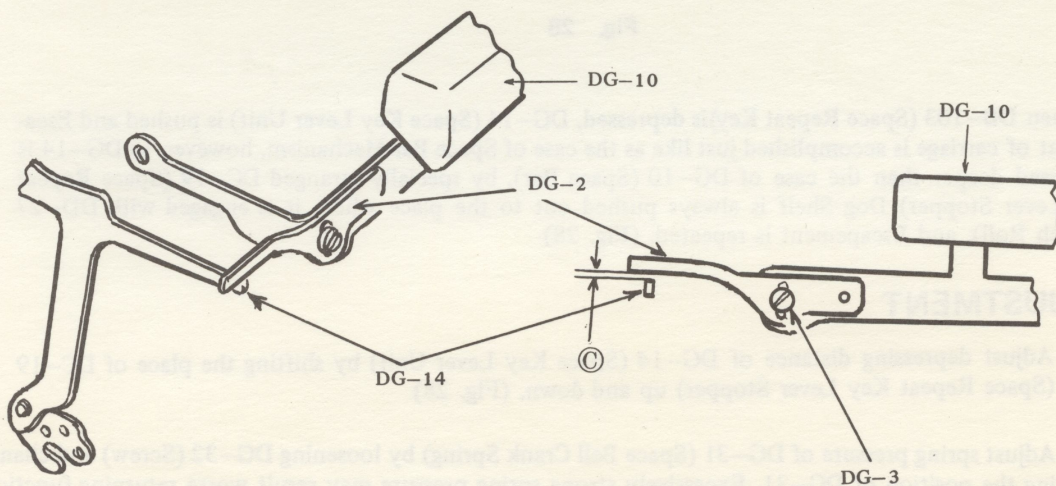


Fig. 27

- (2) Adjust the clearance ③ between DG-14 (Space Key Lever Unit) and DG-2 (Space Key Lever Operating Plate) to obtain 0.1 to 0.3 mm by loosening DG-3 (Screw) and changing position of DG-2. (Fig. 27)

9. SPACE REPEAT

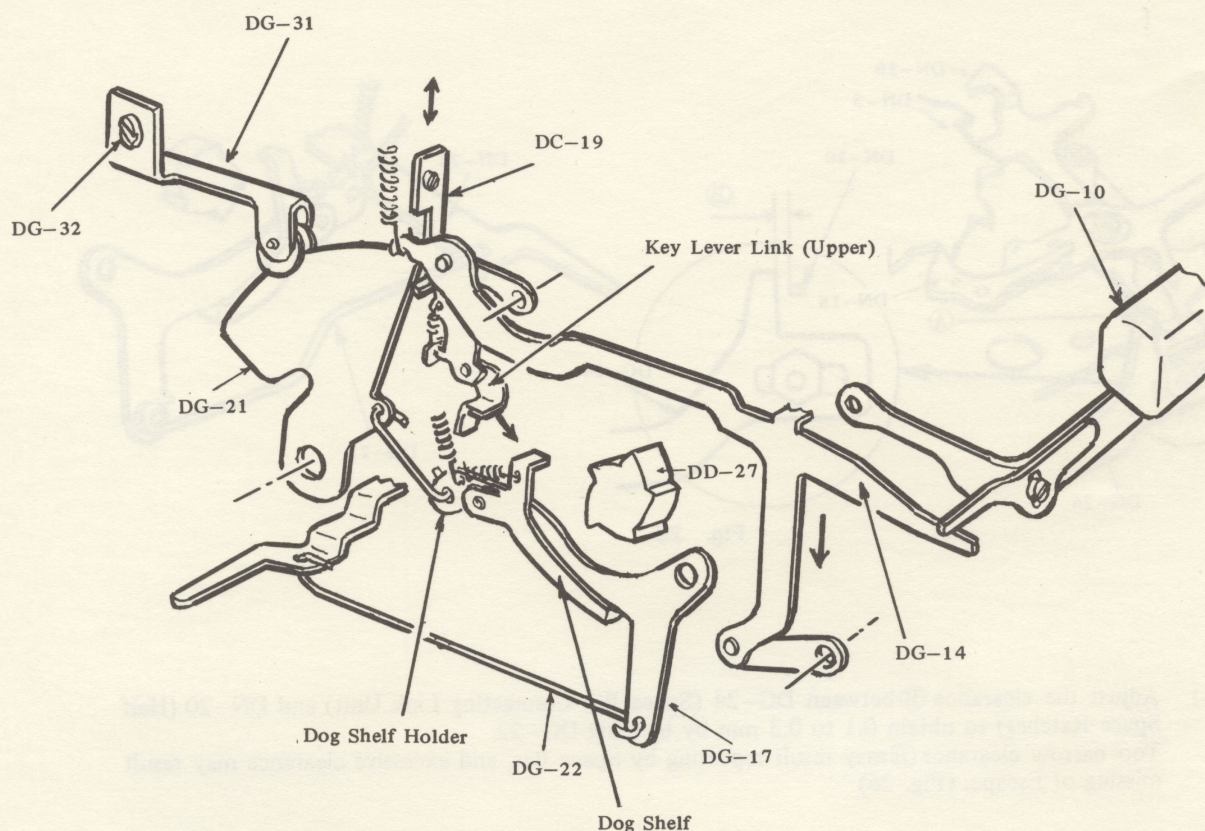


Fig. 28

When DB-103 (Space Repeat Key) is depressed, DG-14 (Space Key Lever Unit) is pushed and Escapement of carriage is accomplished just like as the case of Space Bar Mechanism, however, as DG-14 is depressed deeper than the case of DG-10 (Space Bar), by specially arranged DC-19 (Space Repeat Key Lever Stopper), Dog Shelf is always pushed out to the place where it is engaged with DD-27 (Snatch Roll), and Escapement is repeated. (Fig. 28)

ADJUSTMENT

- (1) Adjust depressing distance of DG-14 (Space Key Lever Unit) by shifting the place of DC-19 (Space Repeat Key Lever Stopper) up and down. (Fig. 28)
- (2) Adjust spring pressure of DG-31 (Space Bell Crank Spring) by loosening DG-32 (Screw) and changing the position of DG-31. Excessively strong spring pressure may result worse returning function of DG-17 (Dog Shelf Holder), consequently it should be confirmed that DG-17 is positively returned to the original position after DG-33 (Half Space Key) is depressed and let off. (Fig. 28)

10. HALF SPACE

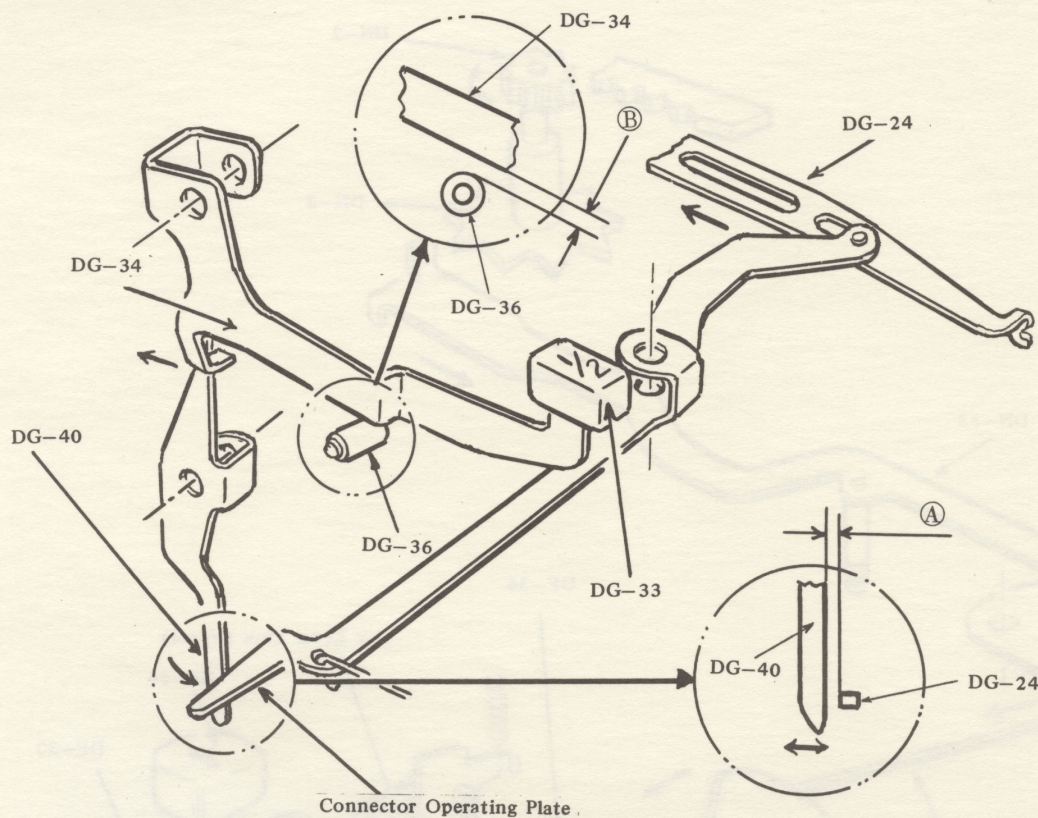


Fig. 29

When DG-33 (Half Space Key) is depressed, DG-40 (Half Space Crank) is depressed by DG-34 (Half Space Key Lever), the first Half Space is escaped if DG-33 is depressed by the medium of DG-24 (Space Bar Connecting Link Unit) and the last Half Space is escaped if the DG-33 is let off. (Fig. 29)

ADJUSTMENT

Adjust the clearance A between DG-40 and DG-24 by bending DG-40 so that the Carriage is escaped when DG-34 is depressed to the position B where 0.5 to 1.0 mm before touching onto DG-36 (Cushion Rubber). (Fig. 29)

ADJUSTMENT

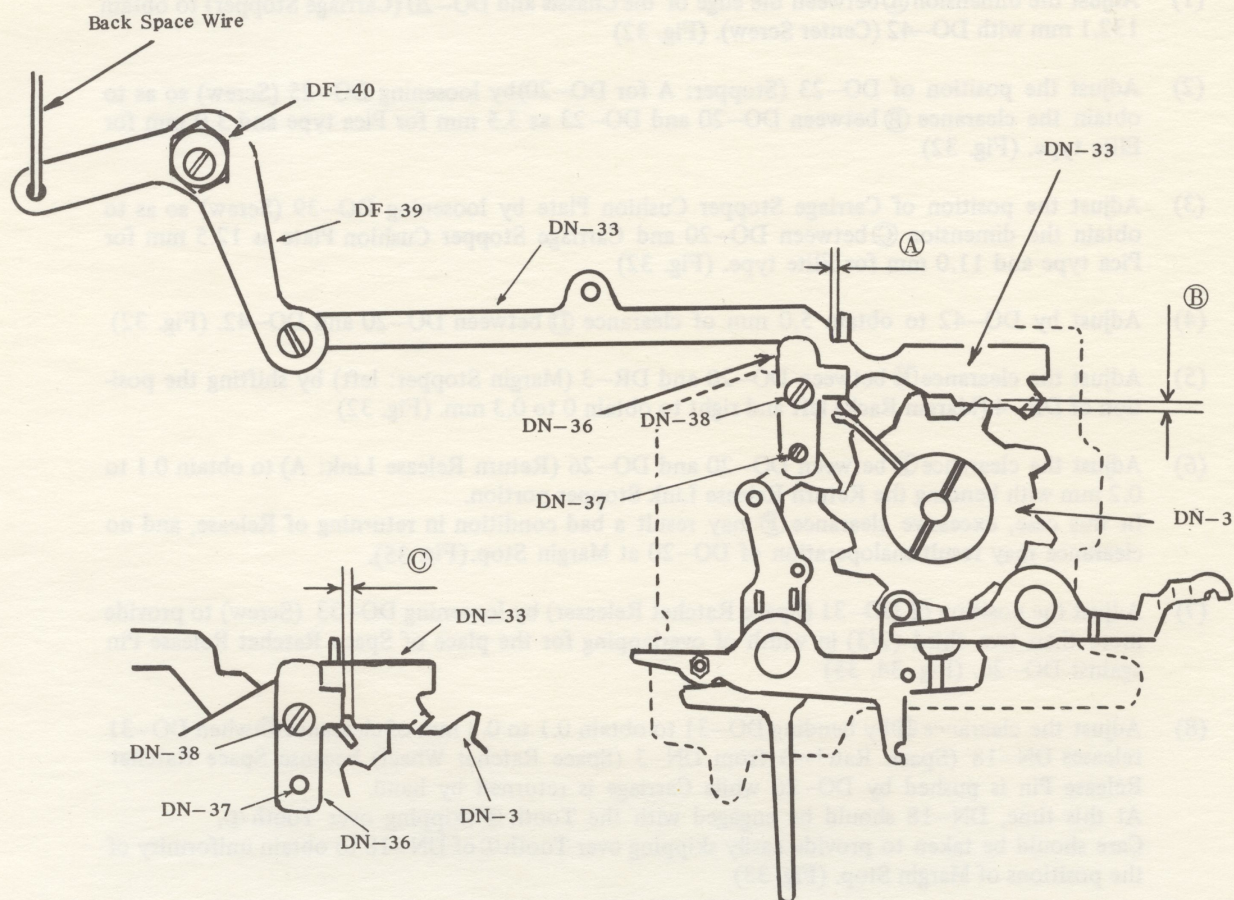


Fig. 31

- (1) Adjust the clearance ① between DN-33 (Dog Shelf Holder Unit) at the original position and DN-36 (Guide for DN-33) to provide less than 0.5 mm by bending Back Space Wire (rear). (Fig. 31)
- (2) To obtain 0.2 to 0.5 mm of engagement ② between DN-33 and DN-3 (Space Ratchet Wheel), set DF-40 (Eccentric Collar) to place its wider portion at the top position or slightly right side, and furthermore set DN-36 at the lowest condition with loosening DN-37 (Back Space Crank Front) and DN-38 (Screw). (Fig. 31)
- (3) Adjust momentum of DF-33 (Dog Shelf Holder) by DD-25 (Adjusting Screw) so that the movement is accomplished remaining 0.2 to 0.5 mm of clearance ③ between DN-33 and DN-36 when operate DN-33 by pushing DB-46 (Back Space Key) with rotating DD-27 (Snatch Roll) by hand.

12. CHASSIS (REAR) ADJUSTMENT

- (1) Adjust the dimension ① between the edge of the Chassis and DO-20 (Carriage Stopper) to obtain 132.1 mm with DO-42 (Center Screw). (Fig. 32)
- (2) Adjust the position of DO-23 (Stopper: A for DO-20) by loosening DO-25 (Screw) so as to obtain the clearance ② between DO-20 and DO-23 as 3.5 mm for Pica type and 3.0 mm for Elite type. (Fig. 32)
- (3) Adjust the position of Carriage Stopper Cushion Plate by loosening DO-39 (Screw) so as to obtain the dimension ③ between DO-20 and Carriage Stopper Cushion Plate as 12.5 mm for Pica type and 11.0 mm for Elite type. (Fig. 32)
- (4) Adjust by DO-42 to obtain 5.0 mm of clearance ④ between DO-20 and DO-42. (Fig. 32)
- (5) Adjust the clearance ⑤ between DO-20 and DR-3 (Margin Stopper: left) by shifting the position of DR-4 (Margin Rack) left and right to obtain 0 to 0.3 mm. (Fig. 32)
- (6) Adjust the clearance ⑥ between DO-20 and DO-26 (Return Release Link: A) to obtain 0.1 to 0.2 mm with bending the Return Release Link Stopper portion.
In this case, excessive clearance ⑥ may result a bad condition in returning of Release, and no clearance may result maloperation of DO-20 at Margin Stop. (Fig. 35).
- (7) Adjust the position of DO-31 (Space Ratchet Releaser) by loosening DO-33 (Screw) to provide more than two third (2/3) in width of overlapping for the place of Space Ratchet Release Pin against DO-26. (Fig. 34, 35)
- (8) Adjust the clearance ⑦ by bending DO-31 to obtain 0.1 to 0.3 mm of clearance ⑧ when DO-31 releases DN-18 (Space Ratchet) from DN-3 (Space Ratchet Wheel) because Space Ratchet Release Pin is pushed by DO-26 while Carriage is returned by hand.
At this time, DN-18 should be engaged with the Tooth ② skipping over Tooth ①.
Care should be taken to provide easily skipping over Tooth ① of DN-18 to obtain uniformity of the positions of Margin Stop. (Fig. 33)

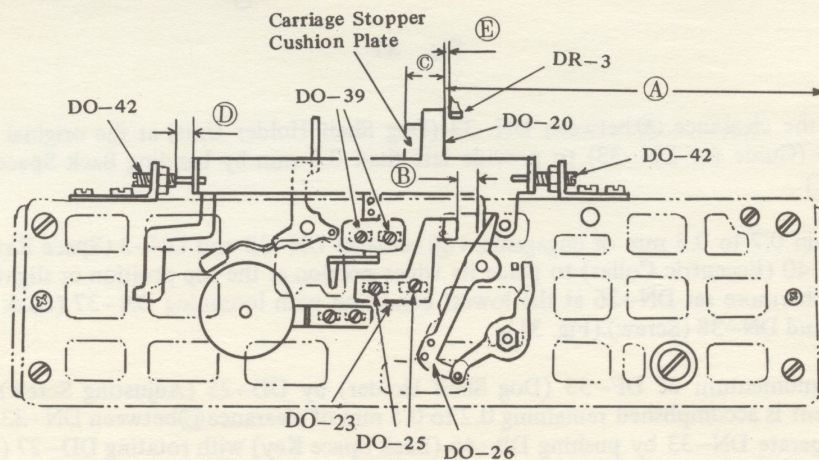


Fig. 32

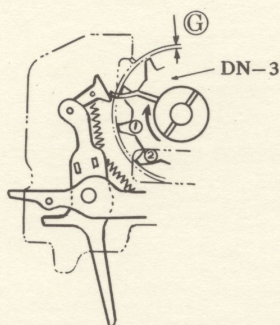


Fig. 33

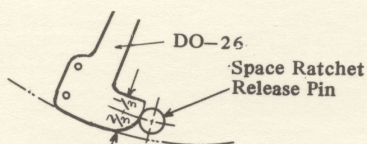


Fig. 34

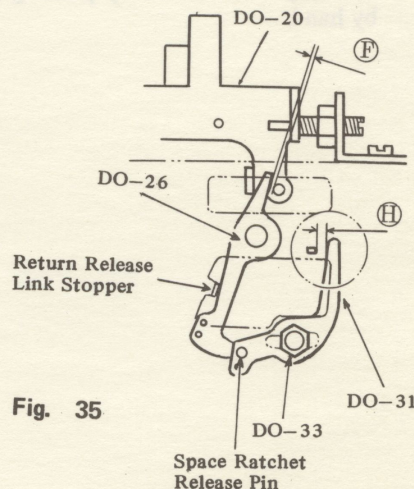


Fig. 35

13. MARGIN STOP

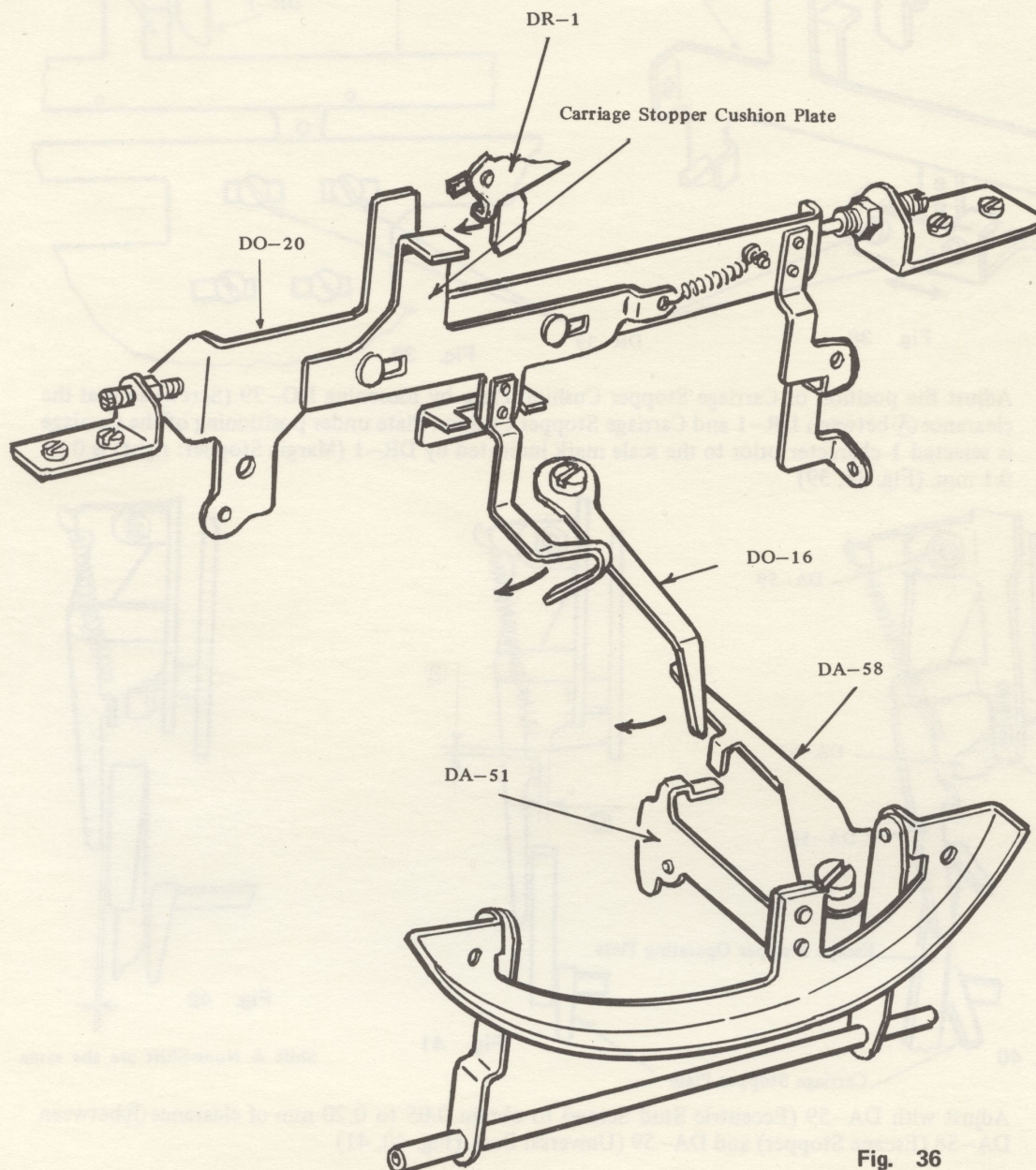


Fig. 36

As Carriage moves on, Carriage Stopper Cushion Plate is pushed by DR-1 (Margin Stopper: right). The movement of Carriage Stopper Cushion Plate will be transmitted to DA-58 (Escape Stopper) through DO-16 (Escapement Stopper Operating Plate), and entered into the inside of DA-51 (Universal Bar) and effects movement of DA-51, consequently Type Bar can not be skipped until the place where it is touched with DR-9 (Platen), resulting Typing Mechanism and Escapement Mechanism are locked. (Fig. 36)

ADJUSTMENT

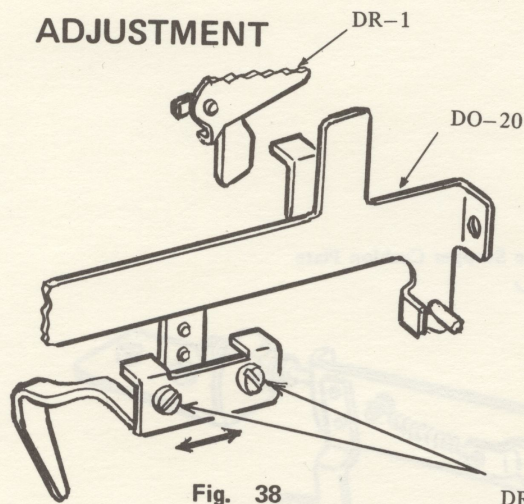


Fig. 38

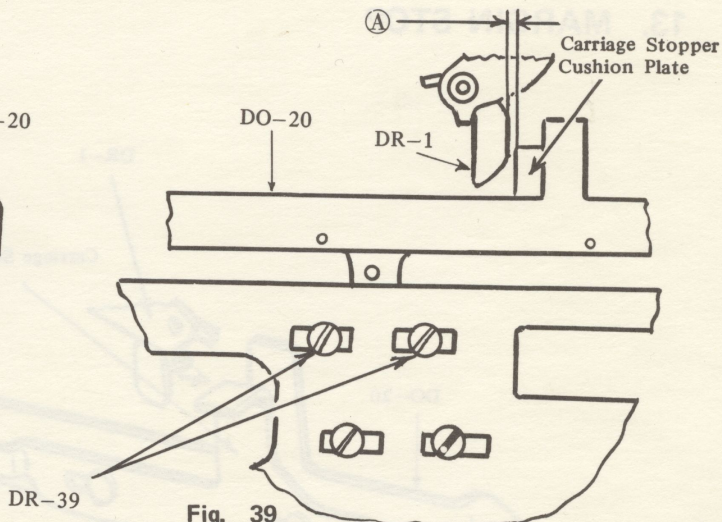


Fig. 39

- (1) Adjust the position of Carriage Stopper Cushion Plate by loosening DO-39 (Screw) so that the clearance ① between DR-1 and Carriage Stopper Cushion Plate under positioning of the Carriage is selected 1 character prior to the scale mark indicated by DR-1 (Margin Stopper: right) is 0 to 0.1 mm. (Fig. 38, 39)

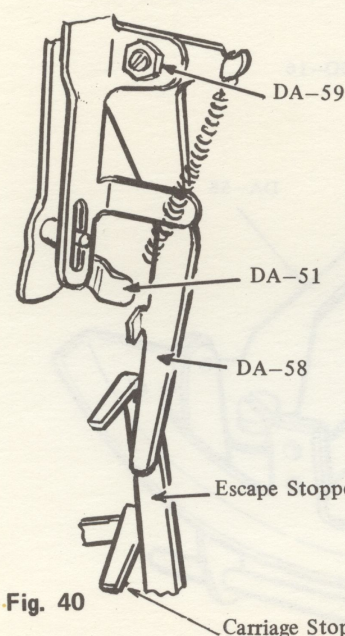


Fig. 40

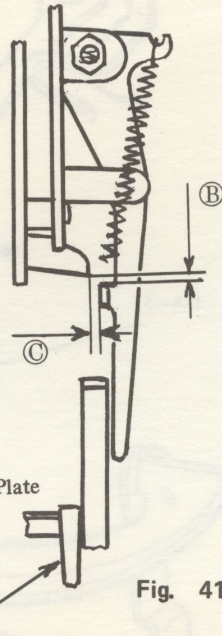


Fig. 41

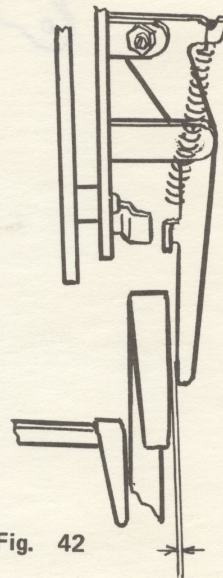


Fig. 42

Shift & None-Shift are the same

- (2) Adjust with DA-59 (Eccentric Stud Screw) to obtain 0.05 to 0.20 mm of clearance ② between DA-58 (Escape Stopper) and DA-59 (Universal Bar). (Fig. 40, 41)
- (3) Adjust with bending DO-20 (Carriage Stopper Unit) to obtain the clearance ③ as 0.1 to 0.8 mm for Pica type and 0.1 to 0.3 mm for Elite type.
Care should be exercised to eliminate any distortion on DO-46 (Tab Release Wire) which is connected to DO-20. (Fig. 40, 41)
- (4) The related position between DA-58 and DA-51 will be changed by shift operation, and adjust the clearance ④ by bending DA-51 to obtain the same clearance in either case. (Fig. 40, 41, 42)

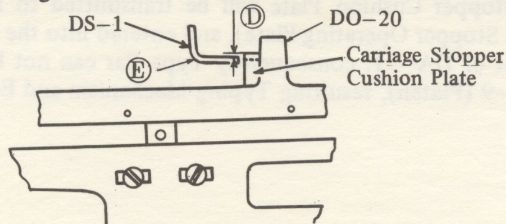


Fig. 43

- (5) Adjust the engagement ⑤ between DO-20 and the ⑥ portion of DS-1 (Carriage Side Plate Right Unit) to obtain 0 to 0.5 mm by bending the ⑥ portion up and down directions. (Fig. 43)

14. CARRIAGE RETURN

When DA-48 (Carriage Return Key) is depressed, DH-1 (Return Key Lever Unit) is lowered, and Key Lever Link (upper) pushes Dog Shelf and engage with DD-27 (Snatch Roll) which is being rotated. By this revolution of DD-27, DH-4 (Dog Shelf Holder) is lowered and DH-32 (Return Link) will be pulled by the media of DH-8 (Return Bell Crank Wire), DH-7 (Return Bell Crank) and DH-9 (Return Operating Wire).

When DH-32 is moved, DH-35 (Return Pawl Stopper) will be simultaneously moved DH-37 (Return Pawl) will be interlocked and engaged with DH-35 by DH-45 (Spring) and DH-32 will be retained the position where it is pulled.

With operation of DH-32 initiated by DH-43 (Spring), DH-29 will be pulled, and DH-11 (Timing Pulley) will be engaged with Pawl of DH-12, then the clutch operation will be started. The revolution transmitted from DD-27 through DT-18 (Timing Belt) will be transmitted to DH-12 (Return Drum), resulting DT-45 (Return Belt) will be rolled in DH-12 and Carriage will be returned. When DR-3 (Margin Stopper: left) is touched with DO-20 (Carriage Stopper) after Carriage is returned, DO-20 will be pushed and DD-26 (Return Release Link: A) will be moved, resulting DH-54 (Return Release Wire: rear) will be pulled.

Furthermore, DM-40 (Return Release Crank) is moved, the engagement between DH-35 and DH-57 will be released through DH-53 (Return Release Wire: front).

DH-32 is pulled by DH-44 (Spring), DH-29 (Driving Arm) and Return Clutch are returned to the original position, DH-11 and DH-12 are released at their pawl portion, then Carriage Return will be released. (Fig. 44, 45)

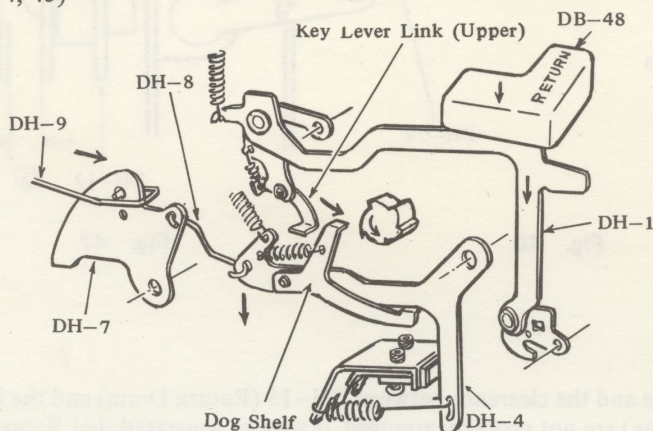


Fig. 44

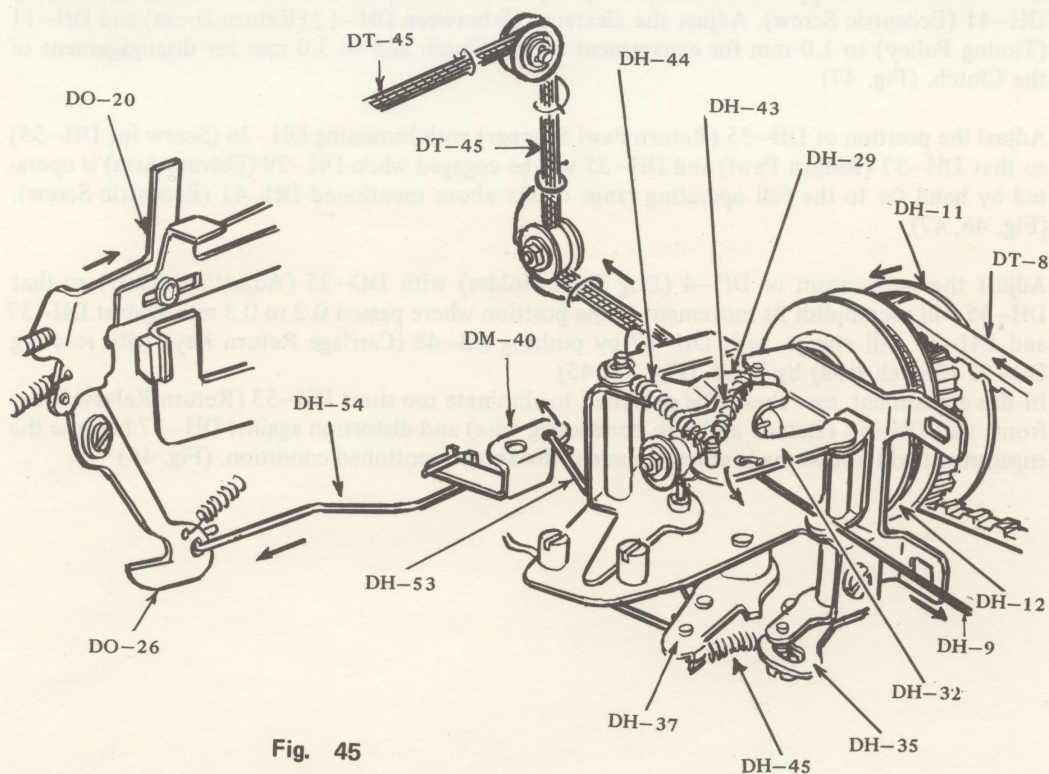


Fig. 45

ADJUSTMENT

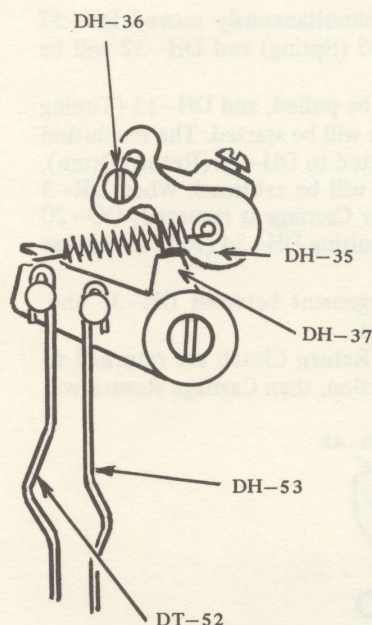


Fig. 46

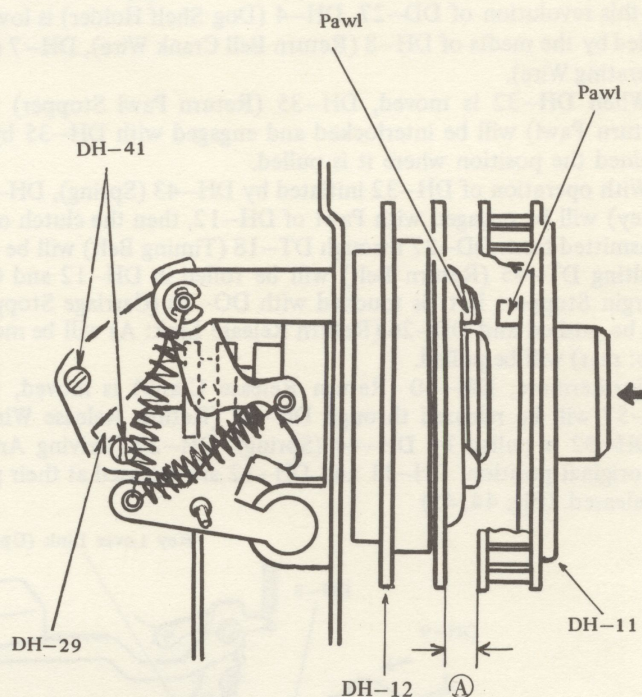


Fig. 47

- (1) If the engaging degree and the clearance between DH-15 (Return Drum) and the Pawl portion of DH-11 (Timing Pulley) are not properly arranged, it may be generated that Return is repeated or an unusual noise is appeared, consequently adjust the momentum of DH-29 (Driving Arm) by DH-41 (Eccentric Screw). Adjust the clearance (A) between DH-12 (Return Drum) and DH-11 (Timing Pulley) to 1.0 mm for engagement of the Clutch and to 3.0 mm for disengagement of the Clutch. (Fig. 47)
- (2) Adjust the position of DH-35 (Return Pawl Stopper) with loosening DH-36 (Screw for DH-35) so that DH-37 (Return Pawl) and DH-35 will be engaged when DH-29 (Driving Arm) is operated by hand far to the full operating range of the above mentioned DH-41 (Eccentric Screw). (Fig. 46, 47)
- (3) Adjust the momentum of DH-4 (Dog Shelf Holder) with DD-25 (Adjusting Screw) so that DH-35 will accomplish its movement at the position where passed 0.2 to 0.3 mm against DH-37 and DH-35 will engage with DH-37 by pushing DB-48 (Carriage Return Key) with rotating DD-27 (Snatch Roll) by hand. (Fig. 44, 45)
In this adjustment, care should be exercised to eliminate too short DH-53 (Return Release Wire: front) and DH-52 (Return and Tab connecting wire) and distortion against DH-37 because the engagement will not be made correctly under the above mentioned condition. (Fig. 46)

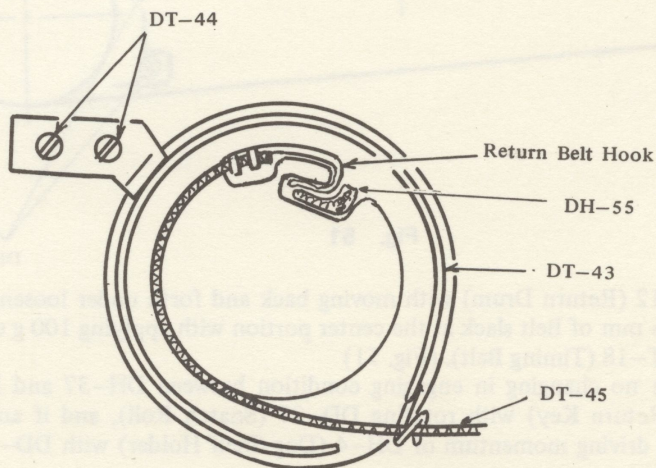


Fig. 48

- (4) Too strong tension of DH-12 (Return Drum) may result unsmooth movement in Carriage shifting. Remove return Belt Hook from DH-12, rotate DH-12 from free condition of DH-12, close tight DH-12 full 4 rotations after felt the tension of DH-19 (Return Drum Spring), then settle with applying Belt Hook and putting DH-55 (Stopper Rubber). Make sure no slack in the midway of DT-45 (Return Belt) when the Carriage is fully returned to the right direction by hand. If the clearance between DT-43 (Belt Cover) and DT-12 (Return Drum) is not correct, DT-45 may be slackened or coming off from DT-12, for which care should be taken.(Fig. 48).

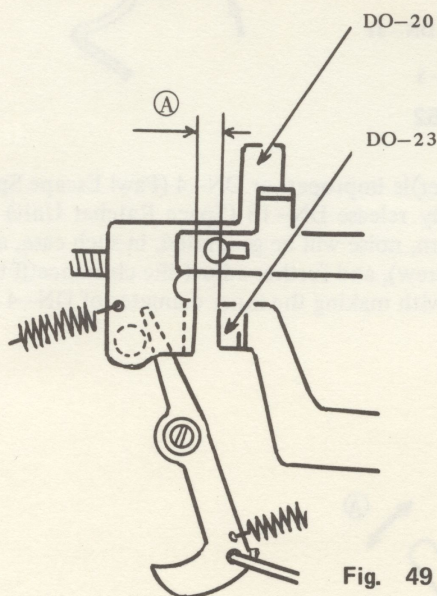


Fig. 49

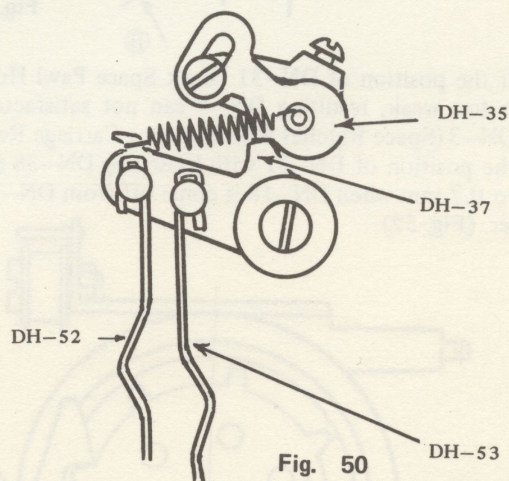


Fig. 50

- (5) Adjust the clearance ① between DO-20 (Carriage Stopper) and DO-23 (Stopper: A for DD-20) to 2.0 to 2.5 mm for Pica type and 1.5 to 2.0 mm for Elite type for disengaging DH-37 and DH-35 with DH-53 when the Carriage is moved to right direction by hand under engaging condition between DH-37 and DH-35. In this adjustment, make sure no excessively short DH-53 and no distortion of DH-53 at the portion of DH-37, because engaging condition may not be satisfied. (Fig. 49, 50)

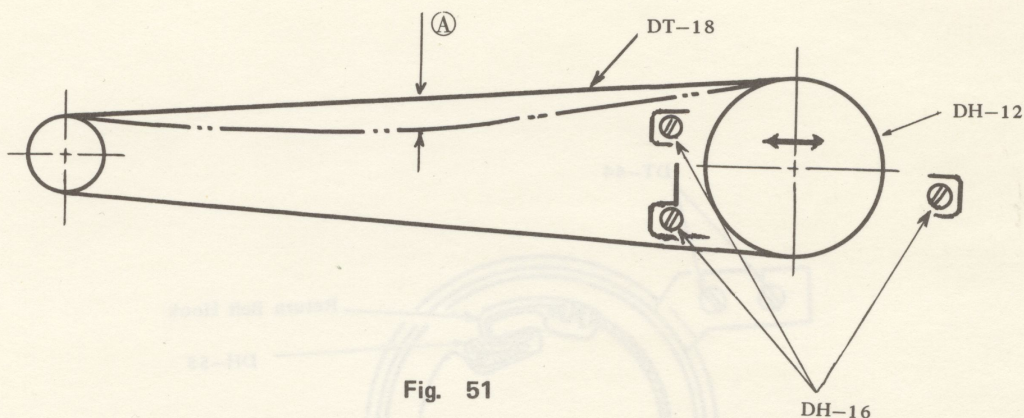


Fig. 51

- (6) Adjust DH-12 (Return Drum) with moving back and forth under loosening DH-16 (Screw) to obtain 4 to 6 mm of Belt slack at the center portion with applying 100 g of load onto the center portion of DT-18 (Timing Belt). (Fig. 51)
 - a) Make sure no changing in engaging condition between DH-37 and DH-35 by depressing DB-48 (Return Key) with rotating DD-27 (Snatch Roll), and if any change is observed, adjust the driving momentum of DH-4 (Dog Shelf Holder) with DD-25 (Adjusting Screw).
 - b) Make sure the related position between DH-12 and DH-43 (Belt Cover Unit).
 - c) Make sure no change in the timing of Carriage Return Release (namely the dimension (A) in the previous paragraph 5).

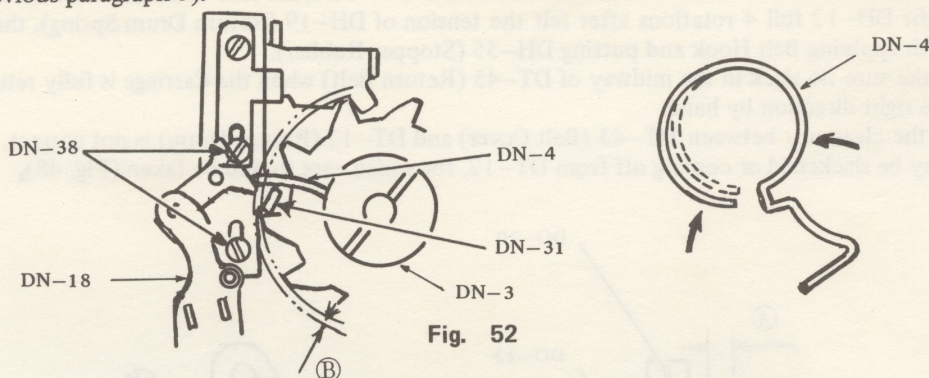


Fig. 52

- (7) If the position of DN-31 (Back Space Pawl Holder) is improper, or DN-4 (Pawl Escape Spring) is too weak, resulting DN-4 can not satisfactorily release DN-18 (Space Ratchet Unit) from DN-3 (Space Ratchet Wheel) during Carriage Return, noise will be generated, in such case, adjust the position of DN-31 with loosening DN-38 (Screw), and further adjust the clearance (B) to 0.5 to 0.7 mm when DN-18 is come off from DN-3 with making the inner diameter of DN-4 smaller. (Fig. 52)

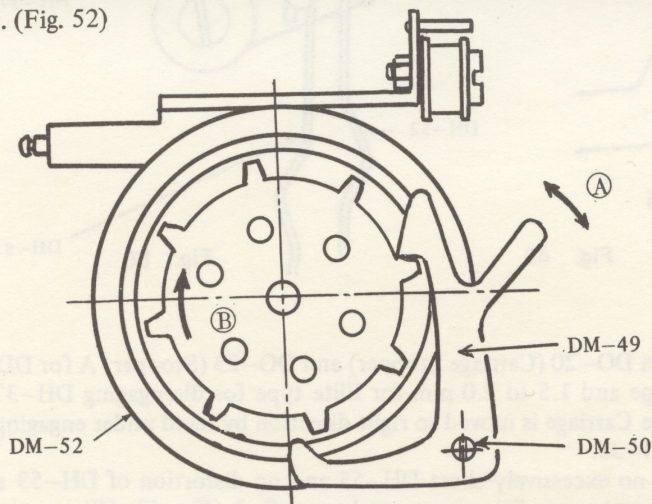


Fig. 53

- (8) Adjust the maximum weight to obtain 1100 to 1350 g when shift Carriage from left to right with number of coil of DM-52 (Spring Drum).
If Carriage is heavy, reduce number of coil of DM-52 with loosening DM-50 (Screw) and operating DM-49 (Spring Drum Ratchet) as (A), on the contrary if Carriage is weak, wind up DM-52 as (B).
However in some cases Carriage may be heavy due to maladjustment of the above paragraph (7). (Fig. 53)

15. TABULATOR

When DB-47 (TAB Key) is depressed, DF-1 (Key Lever Unit) is lowered, and Dog Shelf will be engaged with DD-27 (Snatch Roll) after pushed by Key Lever Link (upper).

By this revolution of DD-27, DF-4 (Dog Shelf Holder Unit) will be lowered, resulting it pulls Tab Wire by the media of DF-7 (Tab Bell Crank Wire) and DF-8 (Tab Bell Crank). (Fig. 54)

DF-9 (Tab Crank: rear) is operated by Tab Wire and pushes up DM-3 (Operating Link Unit for DM-2), resulting DM-6 (Stopper for DM-3) will engage with DM-3 and hold in the condition operating TAB. DM-12 (Tab Stopper Holder) is lowered by Pin (A), resulting Stopper portion (C) will be raised up.

DM-23 (Space Ratchet Releaser) is operated by DM-12, DN-18 (Space Ratchet) will be disengaged from DN-3 (Space Ratchet Wheel) by DM-23, resulting Carriage is made free. (Fig. 55)

DM-10 (Return Release Lever: rear) and DM-36 (Return Release Lever: front) are moved by Pin (B) caulked on DM-3, DH-52 (Return & Tab Connecting Wire) pulls DH-37 (Return Pawl), and releases DH-37 from engaged condition of DH-35 (Stopper for DH-37). Therefore, if TAB Key is depressed in the midst of Carriage Return operation, TAB Mechanism will override and Carriage will be run to the left side from the midst. (Fig. 55, 58)

By the same reason, depressing Carriage Return Key during TAB operation would not result operation of Carriage Return Mechanism. Even if depressed TAB Key and Carriage Return Key at same time, TAB Mechanism will control the operation and jamming would not be occurred.

TAB Mechanism will be released when the (C) portion of DM-12 is touched and pushed by DR-22 (Tab Pawl), and Pin (A) of DM-6 is pushed, then engagement between DM-6 and DM-3 is released.

If TAB Key is depressed without setting DR-22, the (D) portion of DO-20 (Carriage Stopper Unit) is touched by DR-1 (Margin Stopper: right) and DO-46 (Tab Release Wire) is pulled and Pin (A) is also pulled, then engagement between DM-6 and DM-3 will be disengaged and TAB will be released. (Fig. 55)

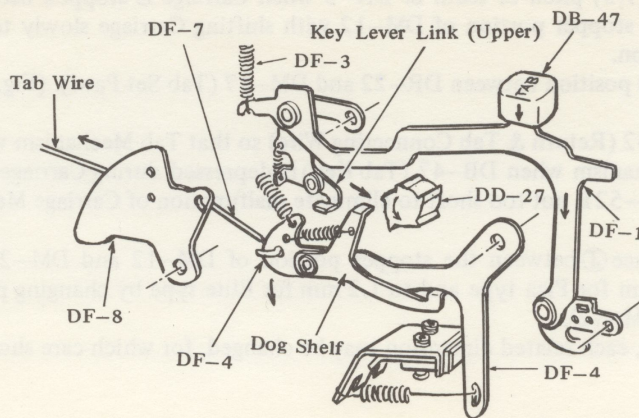


Fig. 54

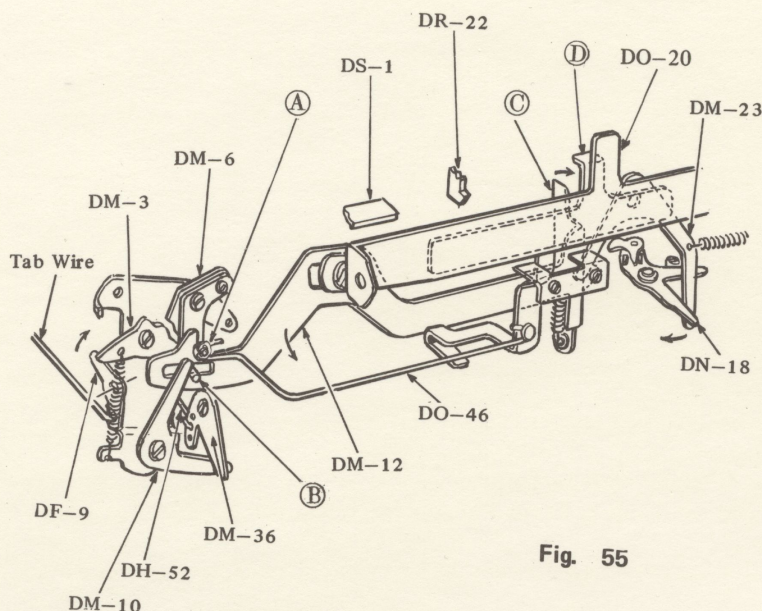


Fig. 55

ADJUSTMENT

- (1) Adjust to provide sufficient clearance ㉔ by DD-25 (Adjusting Screw) and Tab Wire so that DM-3 (Operating Link Unit for DM-2) would not touch with DM-2 (Holders for DM-3, -6 and -10) at the upper end position when DB-47 (Tab Key) is depressed with rotating DD-27 (Snatch Roll) by hand.
In this adjustment, make sure that DM-3 will overrun DM-6 (Stopper for DM-3) about 0.2 to 0.3 mm. (Fig. 56)
- (2) Adjust the position of Pin ㉑ of DM-3 by loosening DM-8 (Screw) so that the engagement between DM-3 and DM-6 would be satisfactorily accomplished. (Fig. 56)
- (3) Adjust the clearance ㉕ between Pin ㉑ and DO-46 (Tab Release Wire) as less than 0.2 mm on DM-12 (Tab Stopper Holder) side and 0.05 to 0.3 mm on DO-46 side so that TAB Mechanism will be smoothly released by DR-22 (Tab Pawl) or DR-1 (Margin Stopper: right).
The adjustment will be made by the above paragraph (2) for DM-12 side and bending DO-46 for DO-46 side, but interference between Pin ㉑ and DO-46 at the clearance ㉕ may result insufficient adjustment in the above paragraph (2) and malfunction of TAB operation, therefore positive confirmation should be made for the sufficient clearance ㉕. (Fig. 56)
- (4) Adjust the clearance ㉖ by bending DM-23 (Space Ratchet Releaser) so that the clearance ㉖ between the teeth tip of DN-18 (Space Ratchet) and teeth tip of DN-3 (Space Ratchet Wheel) is 0.3 to 0.5 mm when Pin ㉑ of DM-12 operates DM-23 and disengages DN-18 from DN-3. (Fig. 57)
- (5) Adjust the position ㉗ of DN-18 against DN-3 by the position of DR-21 (Tab Frame) to provide more than third (1/3) pitch of teeth of DN-3 when Carriage is stopped because DR-22 (Tab Pawl) touches the stopper portion of DM-12 with shifting Carriage slowly to the left direction under Tab condition.
Be sure the related position between DR-22 and DM-17 (Tab Set Pawl). (Fig. 56, 57)
- (6) Adjust with DH-52 (Return & Tab Connecting Wire) so that Tab Mechanism will positively override Carriage Mechanism when DB-47 (Tab Key) is depressed during Carriage Return operation. Make sure that DH-52 is not too short to eliminate malfunction of Carriage Mechanism. (Fig. 58)
- (7) Adjust the clearance ㉘ between the stopper portion of DM-12 and DM-27 (Guide Plate for DM-17) to 1.4 mm for Pica type and to 1.2 mm for Elite type by changing position of DM-14 (Stud Collar for DM-12).
By this adjustment, each related dimension may be changed, for which care should be taken. (Fig. 59)

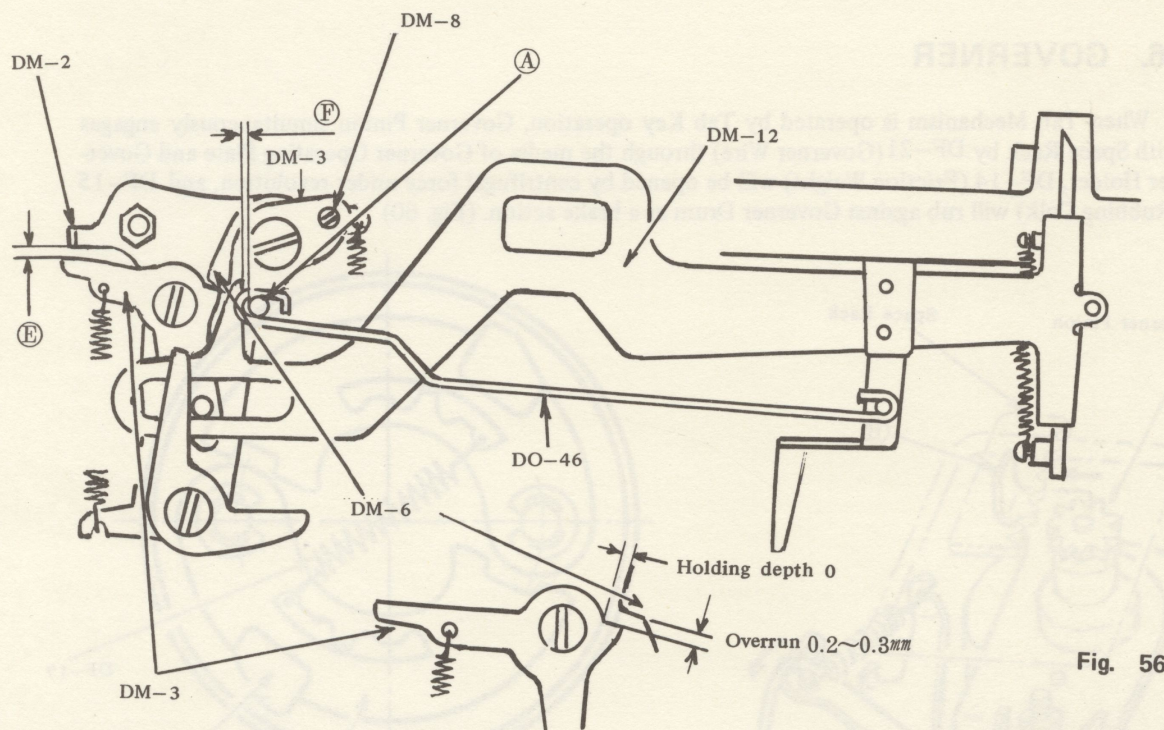


Fig. 56

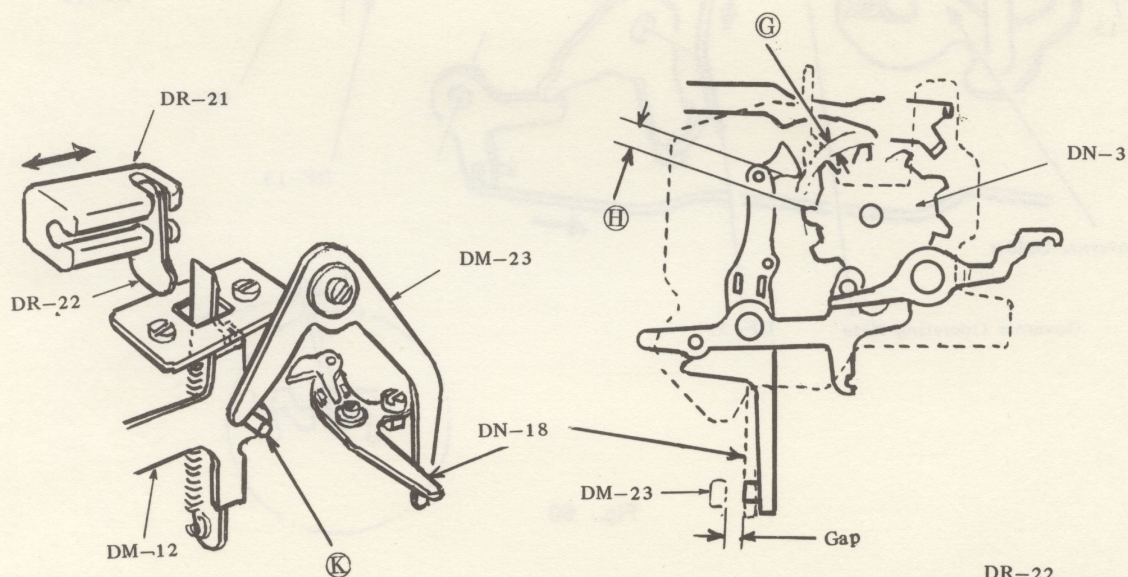


Fig. 57

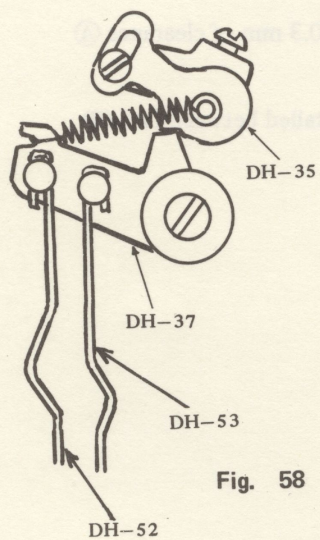


Fig. 58

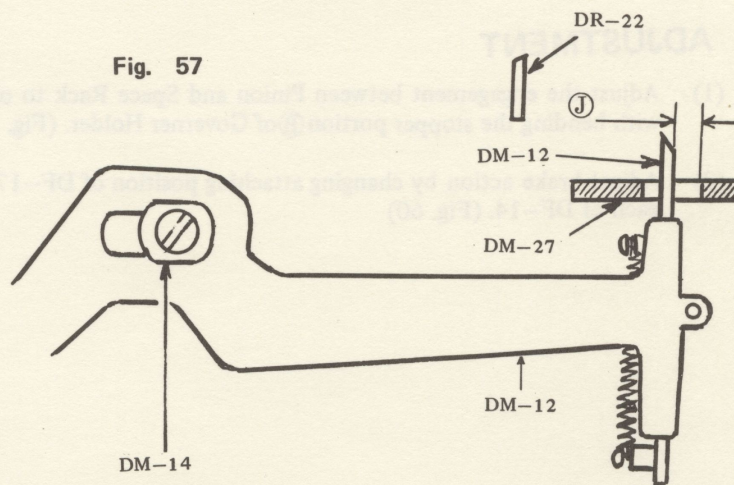


Fig. 59

16. GOVERNER

When Tab Mechanism is operated by Tab Key operation, Governor Pinion simultaneously engages with Space Rack by DF-21 (Governor Wire) through the media of Governor Operating Plate and Governor Holder, DF-14 (Friction Weight) will be opened by centrifugal force under revolution, and DF-15 (Rubbing Colk) will rub against Governor Drum as a brake action. (Fig. 60)

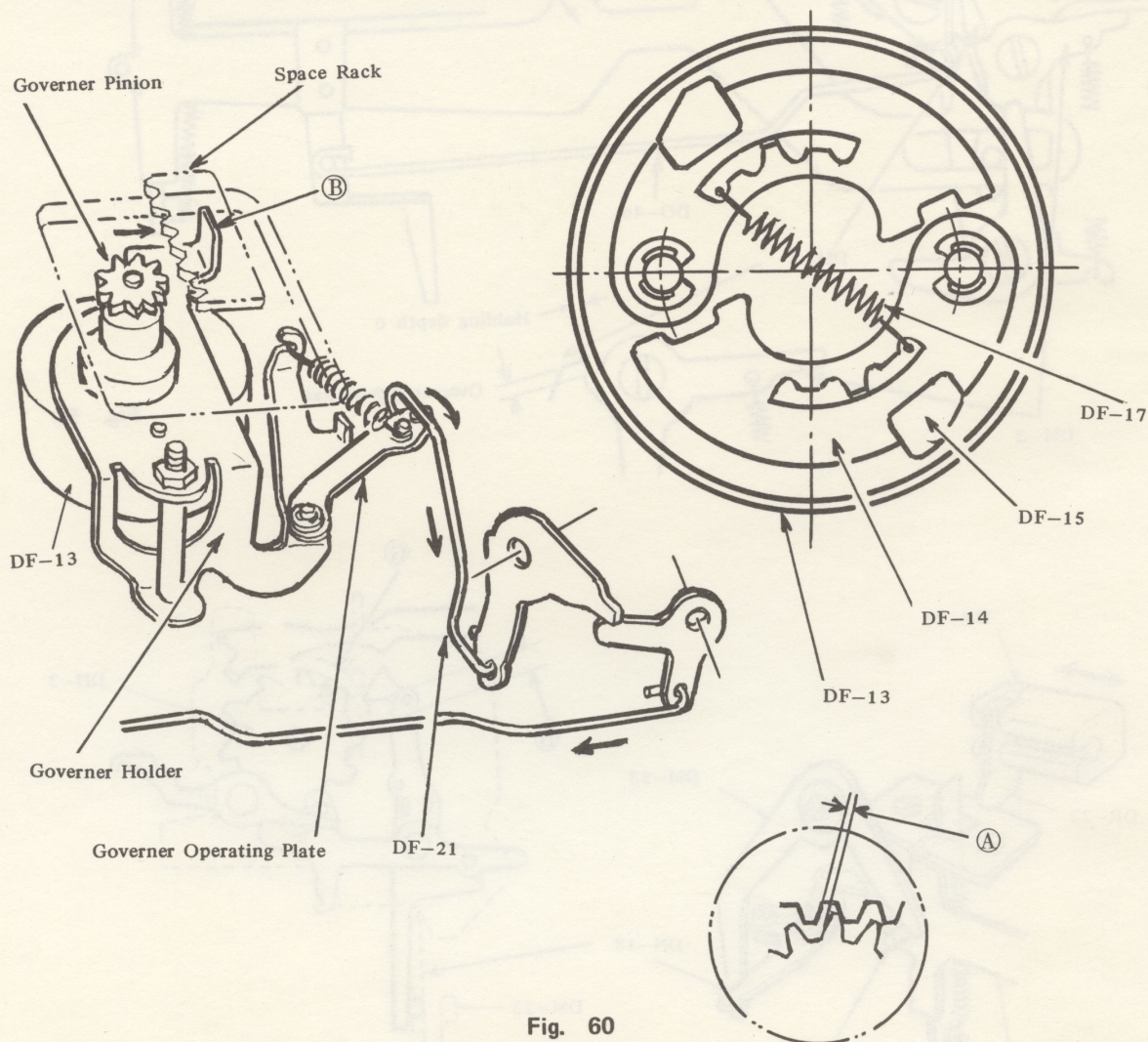


Fig. 60

ADJUSTMENT

- (1) Adjust the engagement between Pinion and Space Rack to obtain 0.1 to 0.3 mm of clearance (A) with bending the stopper portion (B) of Governor Holder. (Fig. 10)
- (2) Adjust brake action by changing attaching position of DF-17 (Spring) installed between two (2) each of DF-14. (Fig. 60)

17. TAB SET-CLEAR

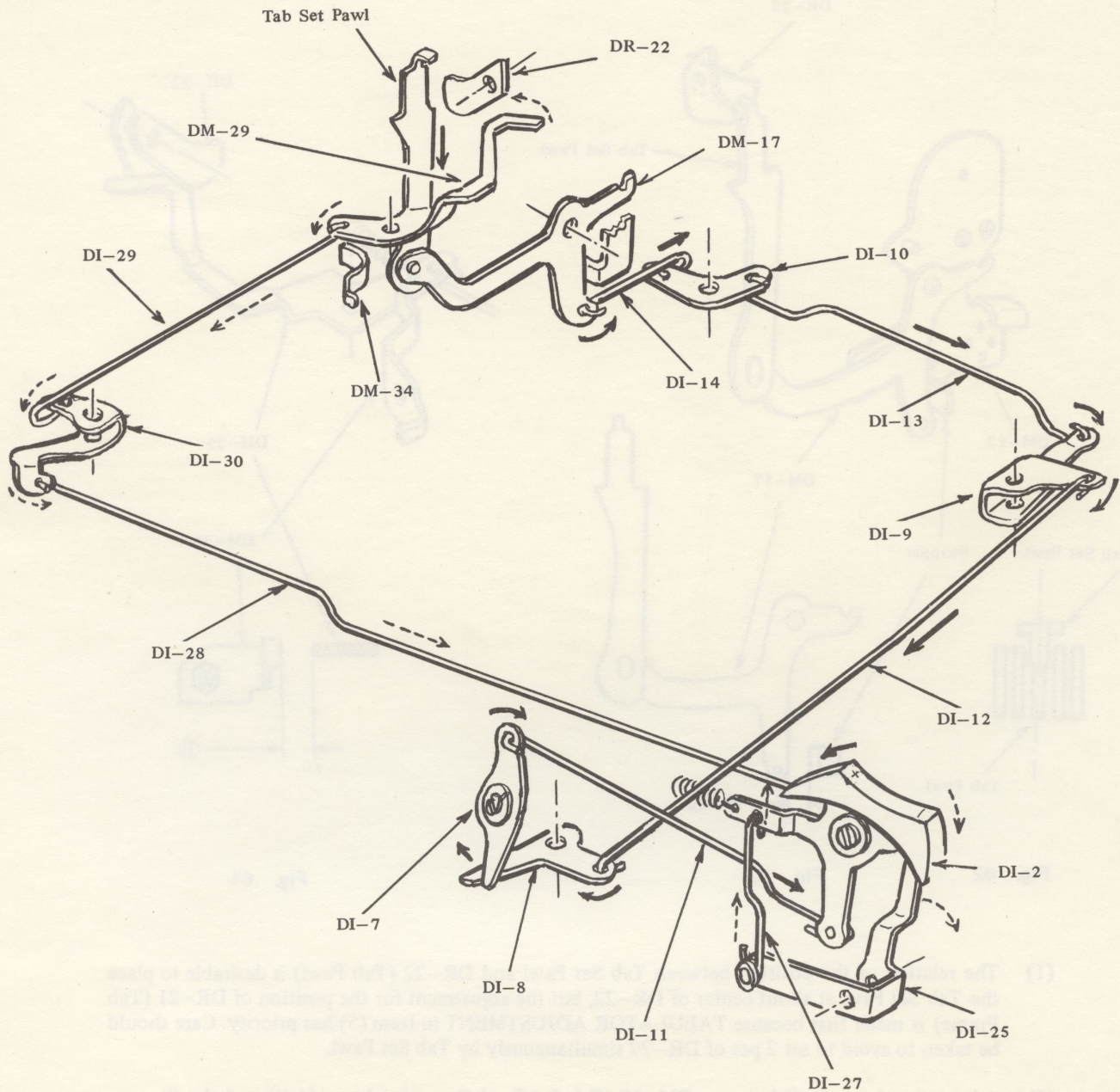


Fig. 61

When Tab Set is made by DI-2 (Tab Set-Clear Key), DI-11 (Tab Set Wire: 1) is pulled and DI-12 (Tab Set Wire: 2) is pulled by the media of DI-7 (Tab Set Crank: 1) and DI-8 (Tab Set Crank: 2). DI-13 (Tab Set Wire: 3) is pulled by DI-9 (Tab Set Crank: 3), DM-17 (Tab Set Pawl Operating Lever Unit) is pulled by the media of DI-10 (Tab Set Crank: 4) and DI-14 (Tab Set Wire: 4), then DR-22 (Tab Pawl) is set by Tab Set Pawl.

When Tab Clear is made by DI-2, DI-27 (Tab Clear Wire: front) is pulled, and DM-29 (Tab Clear Lever) will push up DR-22 and clear by the media of DI-25 (Tab Clear Crank: front), DI-28 (Tab Clear Wire: middle), DI-30 (Tab Clear Crank: rear) and DI-29 (Tab Clear Wire: rear). (Fig. 61)

ADJUSTMENT

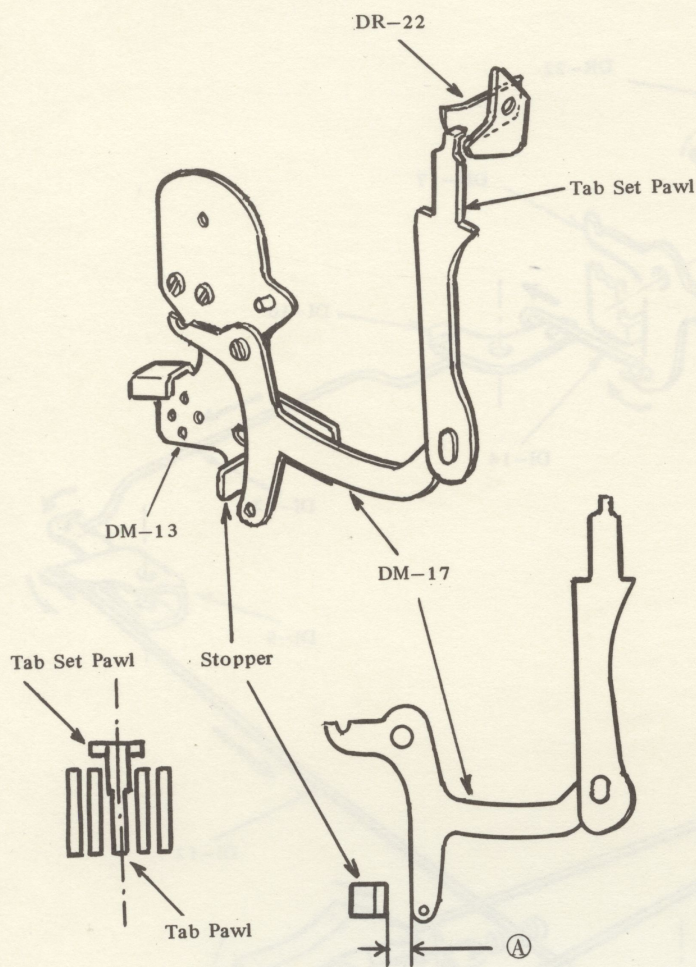


Fig. 62

Fig. 63

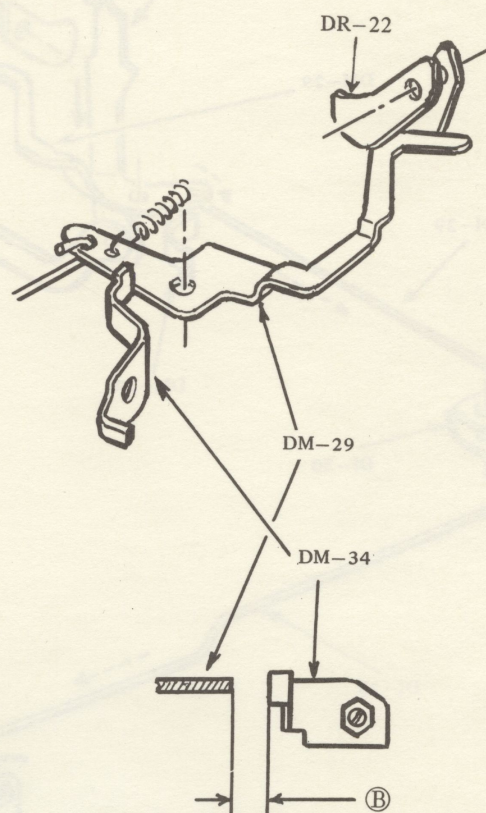


Fig. 64

- (1) The relation of the position between Tab Set Pawl and DR-22 (Tab Pawl) is desirable to place the Tab Set Pawl at about center of DR-22, but the adjustment for the position of DR-21 (Tab Frame) is made first because TABULATOR ADJUSTMENT in Item (5) has priority. Care should be taken to avoid to set 2 pcs of DR-22 simultaneously by Tab Set Pawl.
- (2) Adjust the clearance ① between DM-17 (Tab Set Pawl Operating Lever Unit) and the Stopper portion of DM-13 (Holder for DM-17) to obtain 4.5 to 5.0 mm by bending stopper portion so as to control the movement of Tab Set Pawl. (Fig. 62)
- (3) Adjust the clearance ② between DM-29 (Tab Clear Lever) and DM-34 (Stopper for DM-29) to obtain 2.5 to 3.0 mm by bending DM-34 so as to control the movement of DM-29. With setting DR-22 at several position and make DI-2 (Tab Set-Clear Key) Clear condition, clear DR-22 by shifting Carriage from right to left, then make sure that the tip of DM-29 would not contact with the side surface of DR-22. (Fig. 64)

18. RIBBON VIBRATION & COLOR CHANGE

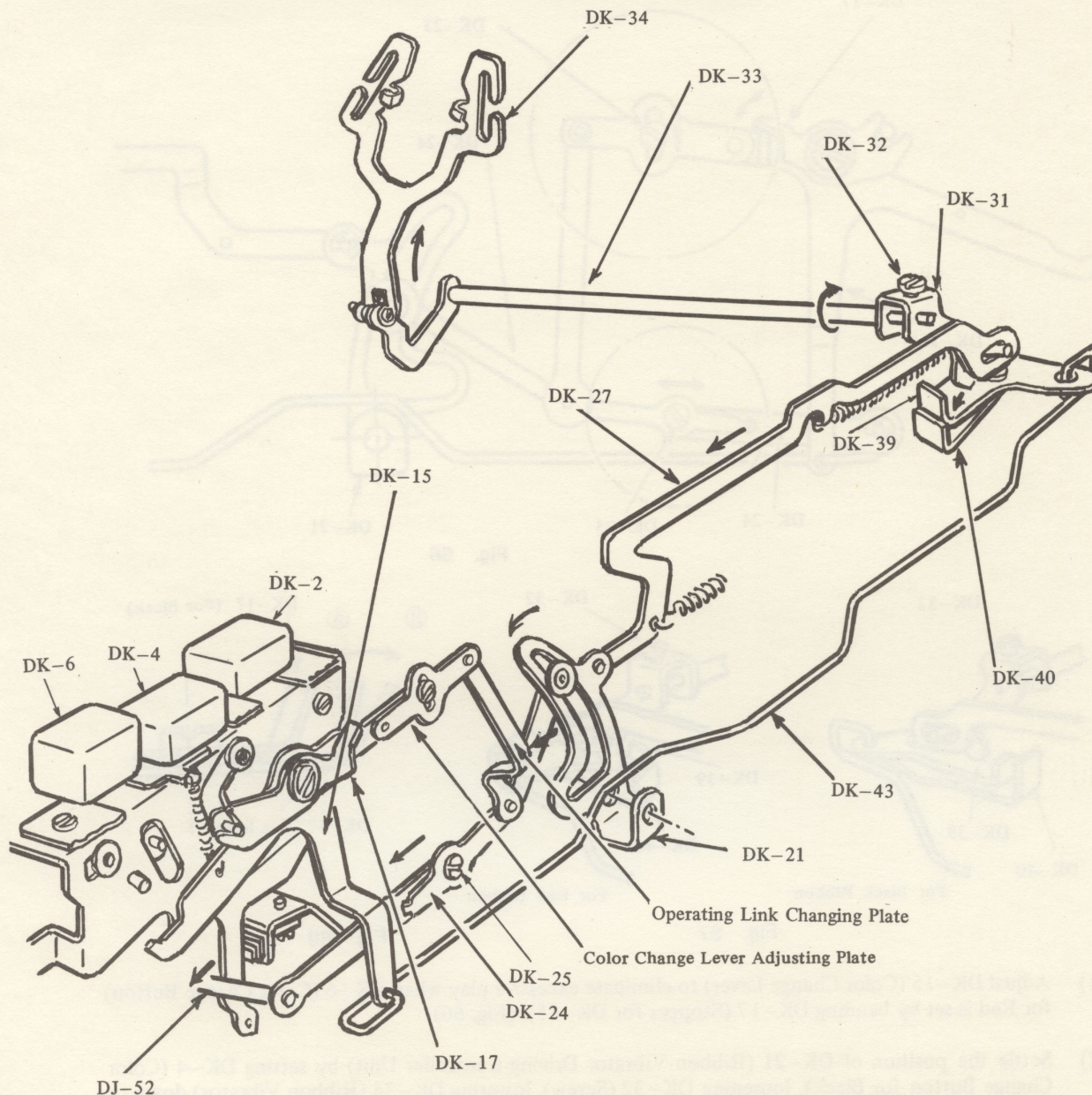


Fig. 65

- (1) DJ-52 (Ribbon Operating Rod) is pushed by movement of Dog Shelf Holder, and DK-21 (Ribbon Vibrator Driving Controller Unit) is operated by the medium of DK-24 (Link for DK-21). As the result of the above, DK-27 (Ribbon Vibrator Motivator Link) is pulled by DK-21, DK-33 (Ribbon Vibrator Link: rear) is rotated by DK-31 (Ribbon Vibrator Link: front), DK-34 (Ribbon Vibrator) is raised up, the raising up of Ribbon is stopped by contacting with DK-39 (Color Change Stopper for Black) or DK-40 (Color Change Stopper for Red). (Fig. 65)
- (2) When DK-2, -4 and -6 (Color Change Buttons) are depressed, DK-15 (Color Change Lever) is operated, DK-39 is moved by DK-43 (Color Change Wire), the position where DK-31 is stopped will be selected by DK-31 or DK-40. The position of DK-24 against DK-21 will be changed by DK-15, and the degree of raising up trip of Ribbon will be changed. (Fig. 65)

ADJUSTMENT

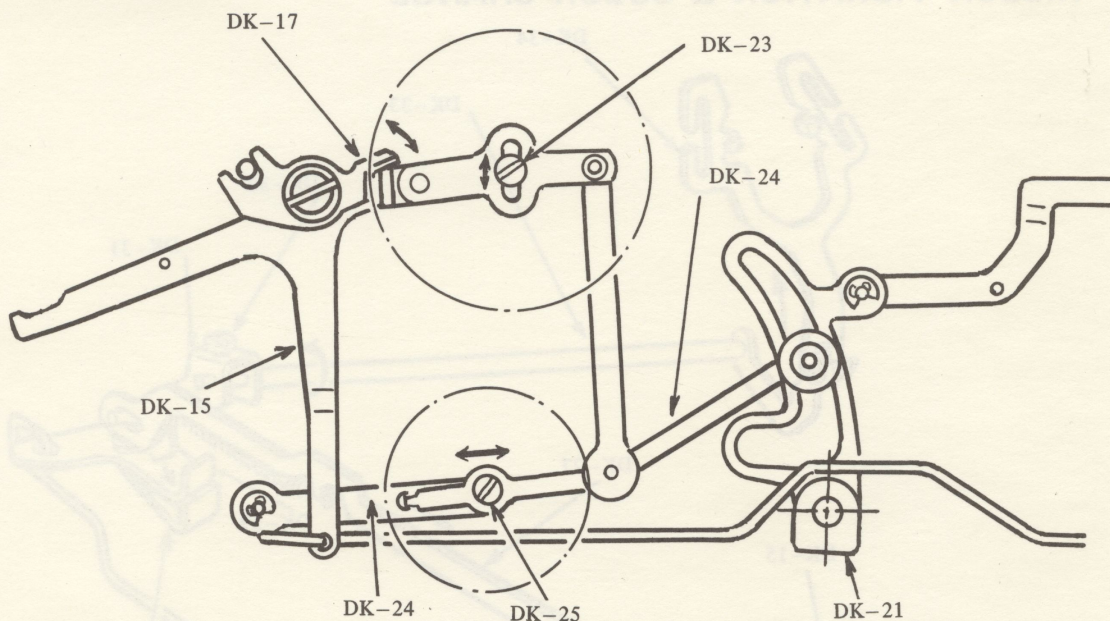


Fig. 66

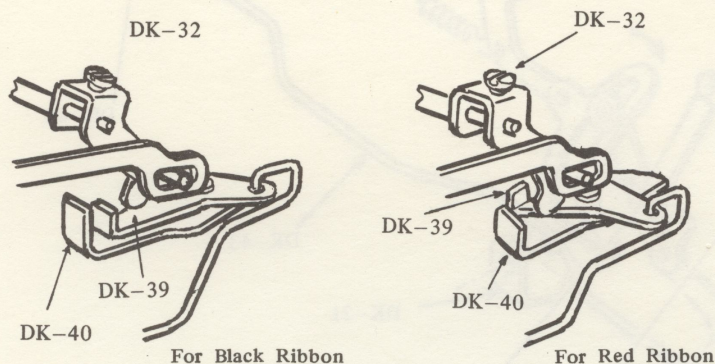


Fig. 67

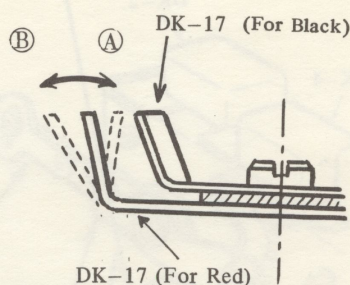


Fig. 68

- (1) Adjust DK-15 (Color Change Lever) to eliminate excessive play when DK-6 (Color Change Button) for Red is set by bending DK-17 (Stopper for DK-15). (Fig. 66)
- (2) Settle the position of DK-21 (Ribbon Vibrator Driving Controller Unit) by setting DK-4 (Color Change Button for Black), loosening DK-32 (Screw), lowering DK-34 (Ribbon Vibrator) down to the lowest position, and tightening DK-32.
When DK-2 (Color Change Button for Stencil) is depressed under this condition, DK-24 (Link for DK-21) should fall down into the groove of DK-21 smoothly by its tare.
If the operation of DK-24 can not be satisfied, after confirming no distortion between DK-21 and DK-24, align the position of DK-24 with the groove of DK-21 by loosening DK-25 (Fastening Screw) of DK-24. (Fig. 66)
- (3) Adjust the position of Underline “—” by bending DK-39 (Color Change Stopper for Black) or DK-40 (Color Change Stopper for Red) to obtain 0.8 to 1.3 mm from the bottom edge of Black or Red Ribbon when DK-4 and DK-6 are set respectively, and Type Bar of Underline “—” is pushed onto Platen by hand.
Bend DK-39 or DK-40 to Ⓐ side for too high position of Ribbon and to Ⓑ side for too low position. (Fig. 67)
- (4) Adjust Color Change Lever Adjusting Plate up and down by loosening DK-32 (Screw for DK-15) so that Type Bar will be stopped at the position where the Type Bar is moved 25 to 35 mm from the surface of Platen by manual operation after setting DK-6 because DK-31 (Ribbon Vibrator Link: front) is contacted with DK-40.
Lower Adjusting Plate for the slow lifting up timing, and raise up Adjusting Plate for too fast lifting up timing. (Fig. 68)

19. RIBBON FEED AND RIBBON REVERSE

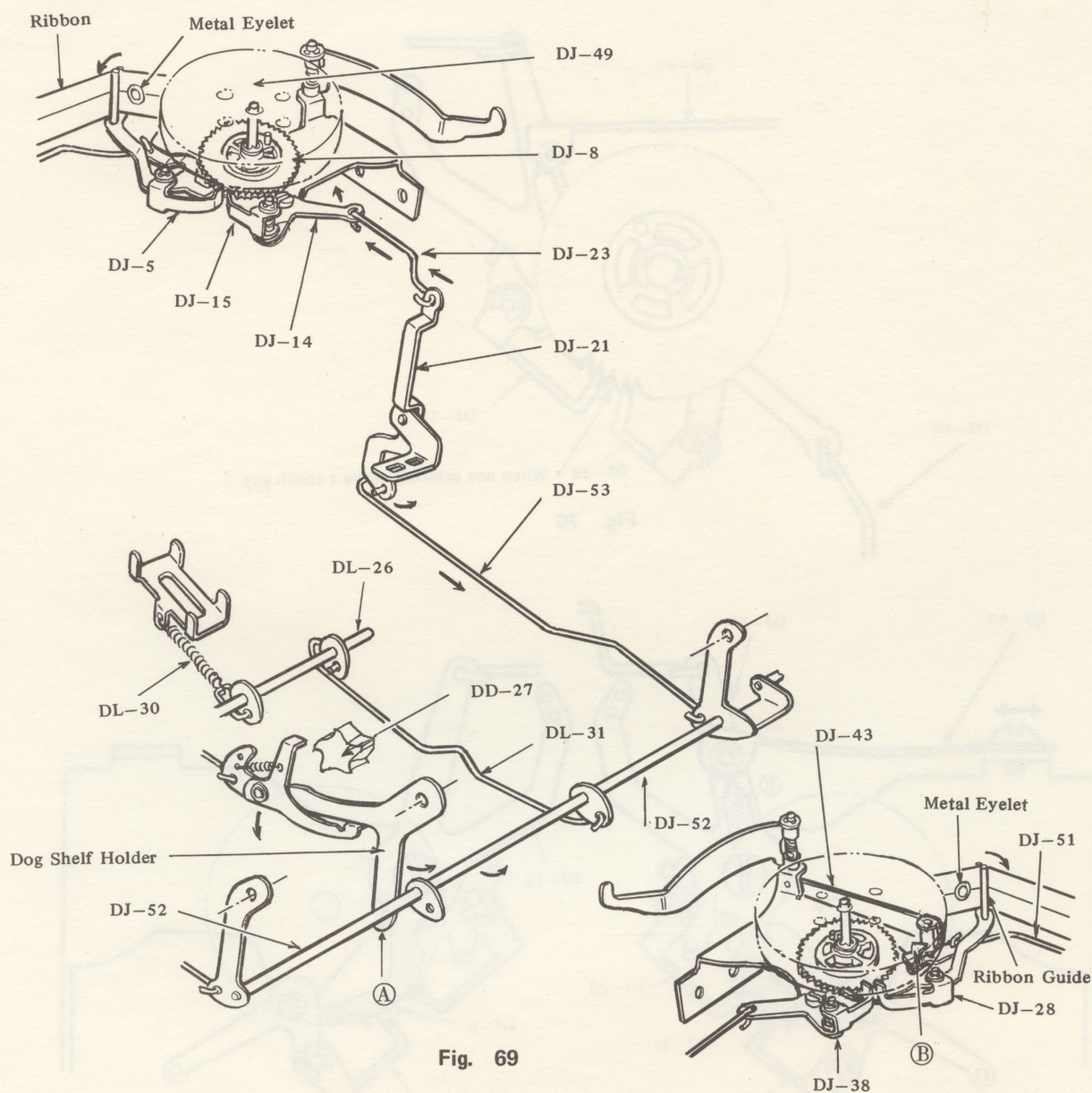


Fig. 69

When each Key is depressed, Dog Shelf Holder is operated by DD-27 (Snatch Roll), and DJ-21 (Ribbon Feed Lever: right) is pulled by DJ-53 (Ribbon Feed Wire: right lower) after the (A) portion of Dog Shelf Holder pushes DJ-52 (Ribbon Operating Rod).

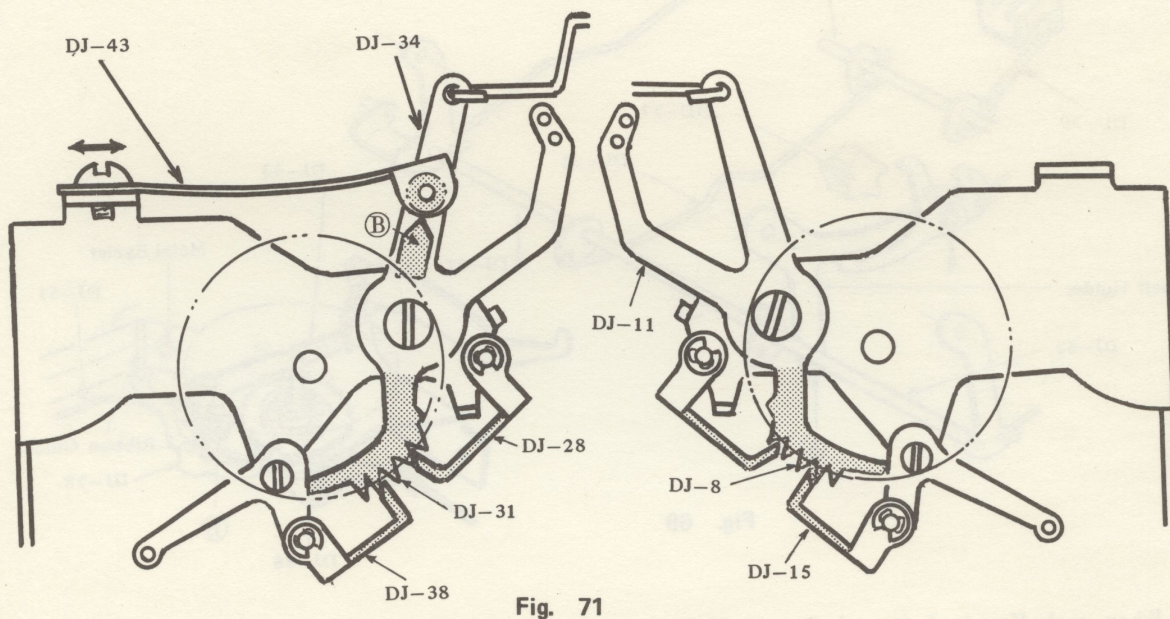
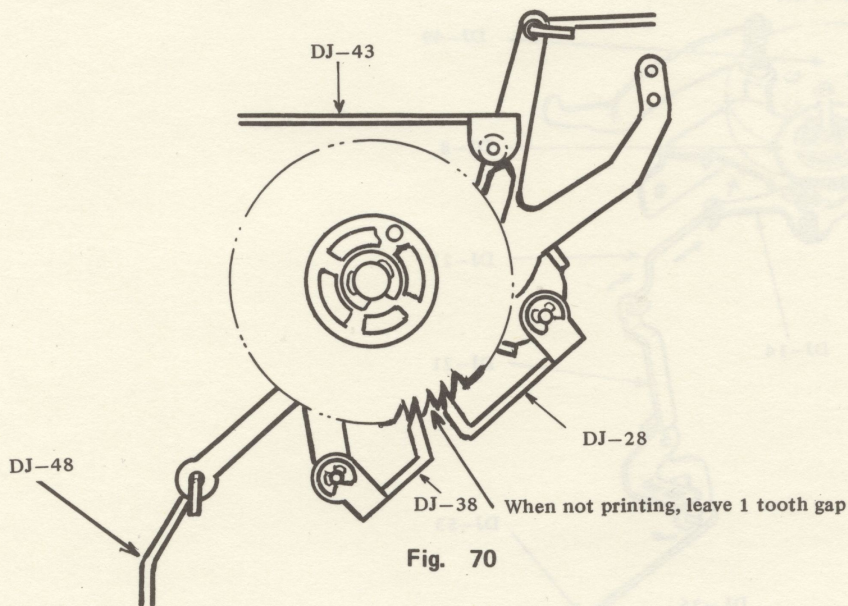
Furthermore, DJ-14 (Operating Lever for DJ-15) is moved by DJ-23 (Ribbon Feed Wire: right upper), and DJ-15 (Ribbon Feed Pawl) engages with the teeth of DJ-8 (Ribbon Ratchet Wheel: right) after DJ-15 moves on the surface of the teeth of DJ-8.

As Dog Shelf Holder returns to the original position after accomplishing typing, DJ-52 will also return to the original position by DL-30 (Spring).

At the returning operation to the original position of DJ-15, DJ-8 is rotated, consequently DJ-50 (Ribbon Spool) will roll up Ribbon. When Ribbon is fully rolled up to one direction (to right side in this case), Metal Eyelet places on Ribbon will engage with Ribbon Guide and pull DJ-34 (Ribbon Releaser: left). Therefore the triangle projected portion (B) will ride across the roller portion of DJ-43 (Ribbon Releaser Holding Spring).

As DJ-34 and DJ-11 (Ribbon Releaser: right) are interconnected by DJ-51 (Ribbon Change Wire), at the position where the (B) portion rides across DJ-43, one side of Ribbon Releaser release Ribbon Feed Pawl and Backlash Stopper (DJ-5 & 28) from Ribbon Ratchet Wheel, and meanwhile the other Ribbon Feed Pawl and Backlash Stopper will engage with Ribbon Ratchet Wheel, resulting Ribbon will be rolled up to the opposite direction. (Fig. 69)

ADJUSTMENT



- (1) Adjust DJ-15 (Ribbon Feed Pawl: right) and DJ-38 (Ribbon Feed Pawl: left) by bending DJ-48 (Ribbon Feed Wire: left upper) and DJ-23 (Ribbon Feed Wire: right upper) so that DJ-8 (Ribbon Ratchet Wheel: right) and DJ-31 (Ribbon Ratchet Wheel: left) are shifted more than 3 teeth when DA-66 (Type Bar Rest) is returned slowly after Type Bar is manually depressed onto Platen. When feeding is accomplished, between DJ-8 and -15 or between DJ-31 and -38 should have a space for 1 tooth processing. (Fig. 70, 71)
- (2) Adjust the position of DJ-43 (Ribbon Releaser Holding Spring) so that both DJ-11 (Ribbon releaser: right) and DJ-34 (Ribbon Releaser: left) are positioned at a tip side from half height of teeth of DJ-8 and DJ-31 when the triangle projected portion ③ of DJ-34 is placed at the center portion of roller of DJ-43. Confirm the spring tension of DJ-43 for 30 to 60 g because excessive or short spring tension may result no automatic reversing operation of Ribbon. (Fig. 70, 71)

20. MARGIN RELEASE

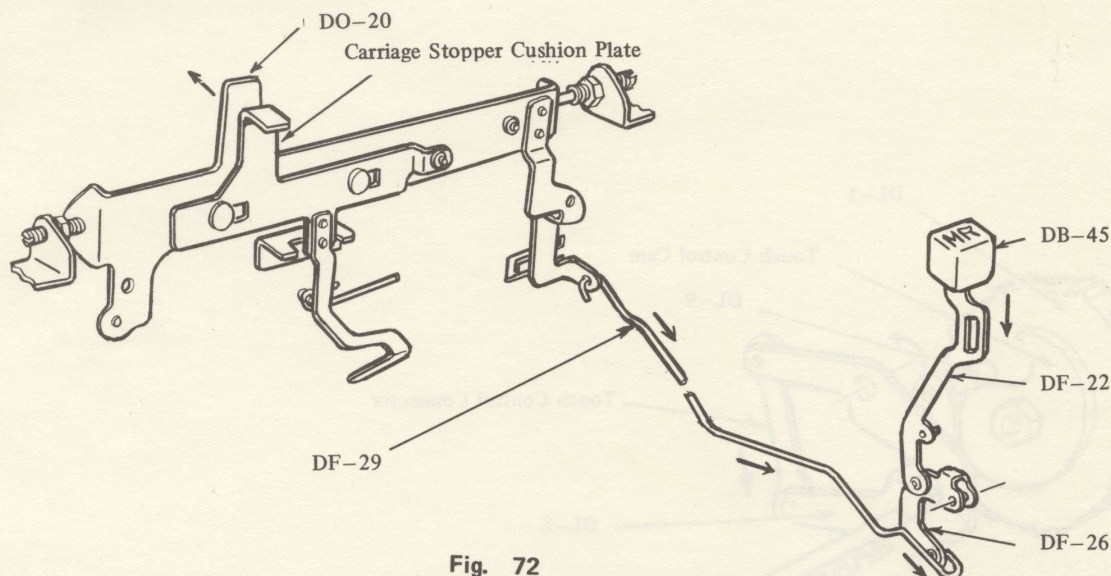


Fig. 72

When DB-45 (Margin Release Key) is depressed, DF-22 (Margin Release Key Lever Unit) is lowered and DF-29 (Margin Release Wire) is pulled by the medium of DF-26 (Margin Release Crank).

Furthermore DO-20 (Carriage Stopper) is pulled by DF-29, DO-20 and Carriage Stopper Cushion Plate are fallen down backward and released from both DR-1 and -3 (Margin Stopper right and left). (Fig. 72)

ADJUSTMENT

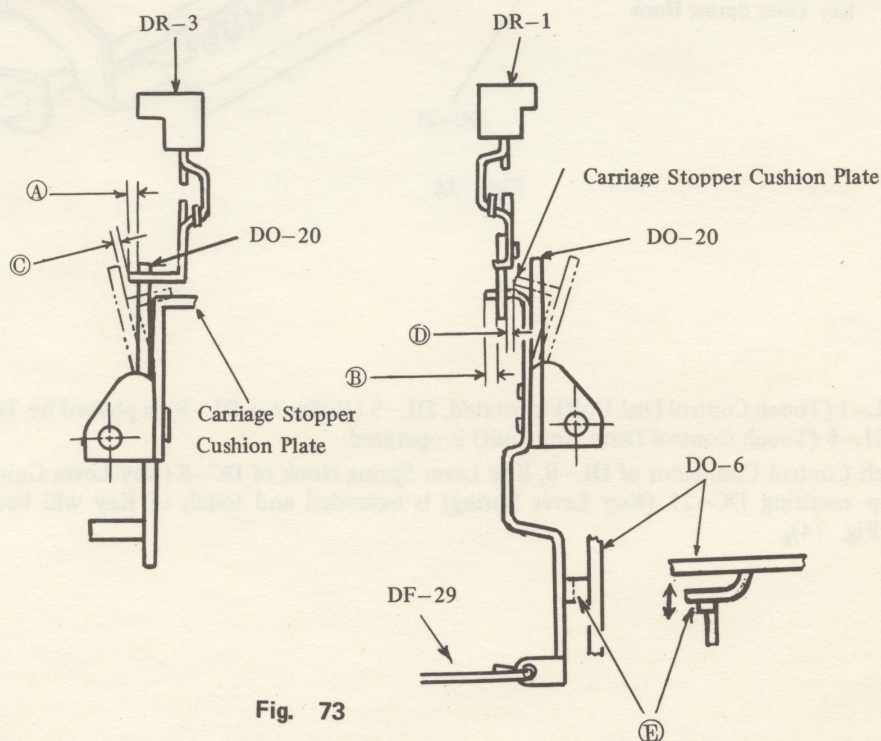


Fig. 73

- (1) Adjust by the projected portion ⑤ of DO-6 (Chassis: rear) to obtain 1.5 to 2.5 mm of engagement ① between DR-3 (Margin Stopper: left) and DO-20 (Carriage Stopper) and 0.5 to 1.0 mm of engagement ② between DR-1 (Margin Stopper: right) and DO-20. (Fig. 73)
- (2) Adjust by bending DF-29 (Margin Release Wire) so that escapement ③ of DO-20 from DR-3 is more than 1.0 mm and escapement ④ of Carriage Stopper Cushion Plate from DR-1 is also more than 1 mm. (Fig. 73)
- (3) Make sure smoothly returning motion of DO-20 to the original position when DB-45 is released. (Fig. 72)

21. TOUCH CONTROL

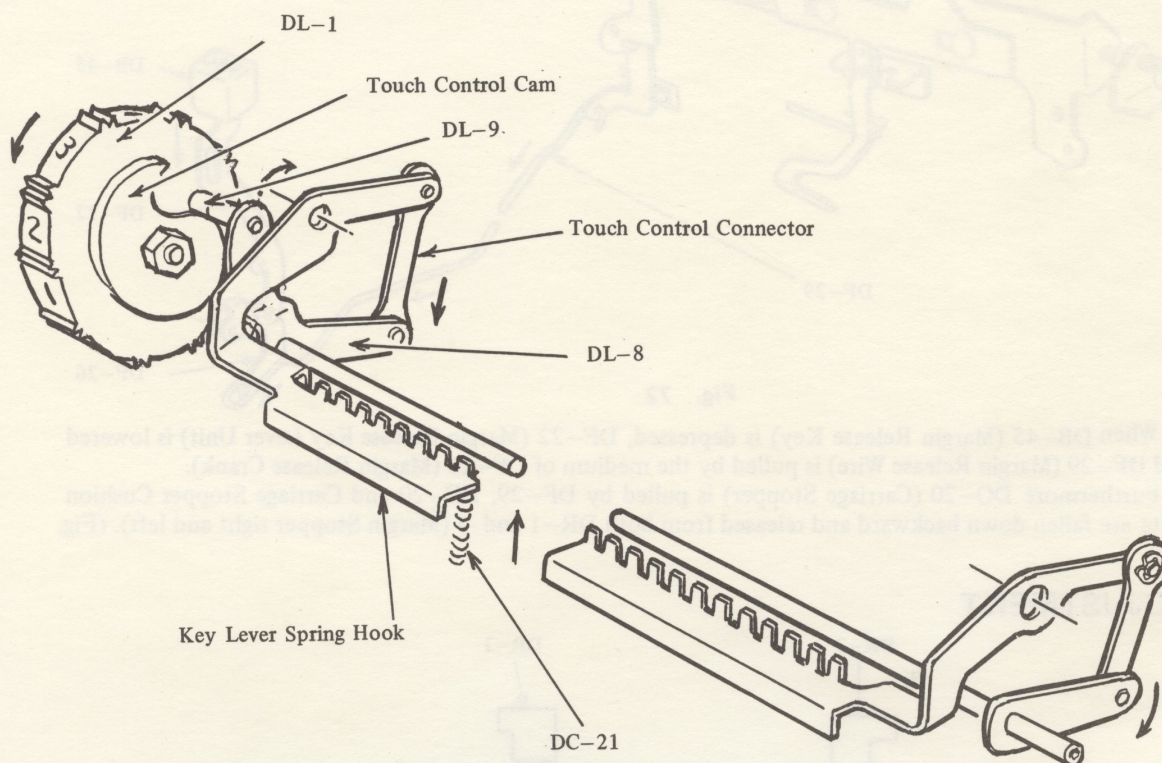


Fig. 74

When DL-1 (Touch Control Dial Unit) is rotated, DL-9 (Roller for DL-8) is pushed by Touch Control Cam, and DL-8 (Touch Control Drive Rod Unit) is operated.

By Touch Control Connector of DL-8, Key Lever Spring Hook of DC-8 (Key Lever Guide Assembly) is raised up resulting DC-21 (Key Lever Spring) is extended and touch of Key will become heavier gradually. (Fig. 74).

22. COPY CONTROL

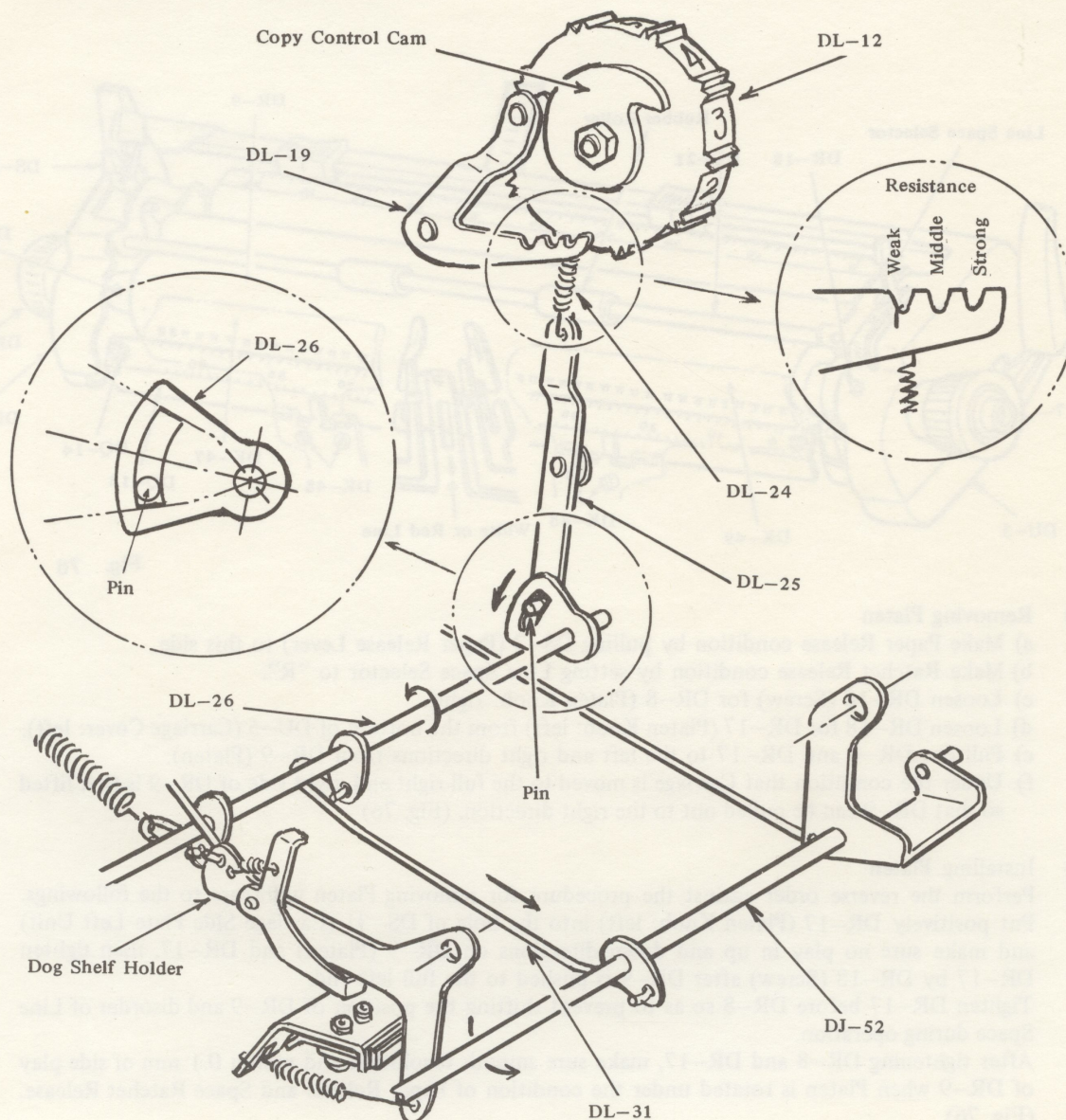


Fig. 75

When Dog Shelf Holder is operated, DL-24 (Copy Control Spring) will be extended by the media of DJ-52 (Ribbon Operating Rod), DL-26 (Copy Control Driving Rod) and DL-25 (Copy Control Spring Hook), and resistance against skipping of Type Bar is applied.

When DL-12 (Copy Control Dial) is rotated, DL-24 will be extended by the media of Copy Control Cam and DL-19 (Copy Control Operating Crank Unit), then resistance against Dog Shelf Holder will be changed. (Fig. 75)

ADJUSTMENT

- (1) Adjust DL-31 (Copy Control Wire: A) so that the position of the Pin of DL-25 (Copy Control Spring Hook) against the groove of DL-26 (Copy Control Driving Rod) is located on lower than the center. (Fig. 75)
- (2) Change the position for hooking DL-24 (Copy Control Spring) into the groove of DL-19 (Copy Control Operating Crank Unit). (Fig. 75)

23. CARRIAGE

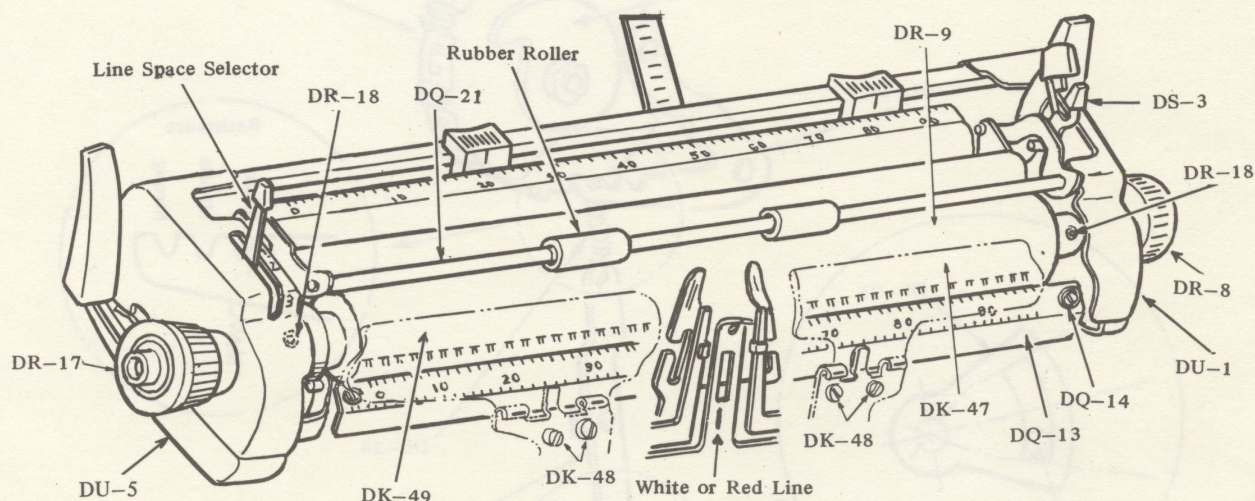


Fig. 76

- (1) Removing Platen
 - a) Make Paper Release condition by pulling DS-3 (Paper Release Lever) to this side.
 - b) Make Ratchet Release condition by setting Line Space Selector to "R".
 - c) Loosen DR-18 (Screw) for DR-8 (Platen Knob: right).
 - d) Loosen DR-18 for DR-17 (Platen Knob: left) from the bottom of DU-5 (Carriage Cover: left).
 - e) Pull out DR-8 and DR-17 to the left and right directions from DR-9 (Platen).
 - f) Under the condition that Carriage is moved to the full right end, right side of DR-9 is first lifted so that DR-9 can be pulled out to the right direction. (Fig. 76)
- (2) Installing Platen

Perform the reverse order against the procedure for removing Platen with care to the followings. Put positively DR-17 (Platen Knob: left) into the hole of DS-31 (Carriage Side Plate Left Unit) and make sure no play in up and down directions on DR-9 (Platen) and DR-17, then tighten DR-17 by DR-18 (Screw) after DR-9 is pushed to the full left end. Tighten DR-17 before DR-8 so as to prevent shifting the position of DR-9 and disorder of Line Space during operation. After tightening DR-8 and DR-17, make sure smooth revolution and within 0.1 mm of side play of DR-9 when Platen is rotated under the condition of Paper Release and Space Ratchet Release. (Fig. 76).
- (3) Removing and Reinstalling Carriage Cover

With the condition that Item (e). in the paragraph of Removing Platen is finished, remove each Carriage Cover by loosening DU-3 (Carriage Cover Fastening Screw). In installing Carriage Cover, be careful to install DR-7 of above Item. (Fig. 76)
- (4) Removing and Reinstalling Paper Pan Lower (DQ-1)

After removal of DQ-13 (Platen Scale) by loosening DQ-14 (Screw), DR-9 and DQ-1 according to the procedure to remove Platen described in the above Item (1). When DQ-1 is installed, make sure that the clearance between DR-9 and DQ-1 is nearly parallel, and when DQ-13 is installed, the Scale of DQ-13 is almost aligned with the white or red line of Type and DK-44 (Card Holder). (Fig. 76)
- (5) Installation of Clear View Paper Meter (DK-47 and 49)

Adjust the positions of DK-47 and DK-49 by loosening DK-48 (Screw) so that red lateral line of DK-47 and -49 is almost aligned with the bottom edge of Types, and longitudinal line is aligned with about center of Types. (Fig. 76)
- (6) Installing Paper Bail (DQ-21)

Adjust by twisting DQ-21 so that 2 pieces of Rubber Roller of DQ-21 will contact evenly with DR-9. (Fig. 76)

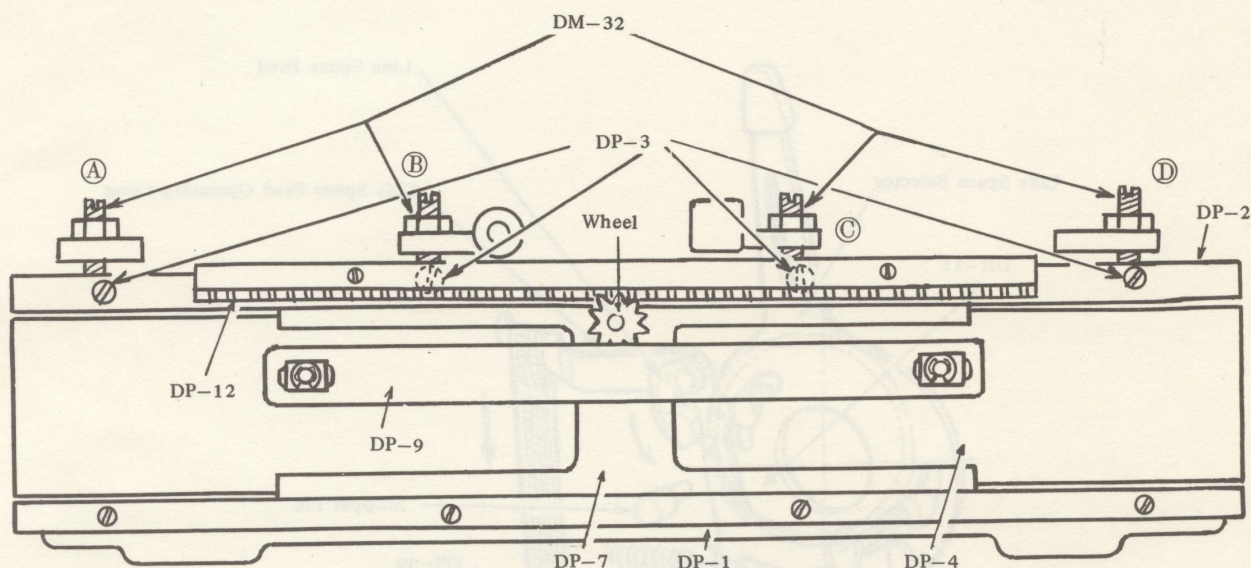


Fig. 77

- (7) Adjust the position of DP-2 (Carriage Rail: rear) with changing by DM-32 (Screw) so that DP-4 (Carriage Unit) moves smoothly between DP-1 (Carriage Rail: front) and DP-2 and the maximum play between DP-1, DP-2 and DP-4 is less than 0.3 mm. (Fig. 77)
 - a) Remove DP-12 (Retainer Rack: rear) and loosen 4 each of DP-3 (Screw). (Fig. 77)
 - b) Adjust play of DP-4 by Screw A with shifting DP-4 to the left direction until DP-8 (Roller Bearing) between DP-4 and DP-1, DP-2 is positioned a little to the right side of A of DM-32, and adjust Screw C also as it is. (Fig. 77)
 - c) With shifting DP-4 to the right direction until 8 pieces of DP-8 located right side of DP-4 come a little to the left of Screw D, adjust play of DP-4 by Screw D and adjust also Screw B as it is. (Fig. 77)
 - d) With moving DP-4 in the full extent, make sure smooth movement of DP-4 and play of DP-4 is less than 0.3 mm at any place. (Fig. 77)
 - e) Secure DP-2 by DP-3. (Fig. 77)
 - f) When DP-4 is located at the center, DP-7 (Carriage Retainer) should also be placed about the center portion. (Fig. 77)
 - g) Install DP-12 with the above mentioned condition.
- Too deep engagement between DP-12 and Wheel may result smoothless movement of DP-4, on the contrary insufficient engagement may result sideslip of DP-7 during operation. (Fig. 77)

24. LINE SPACE

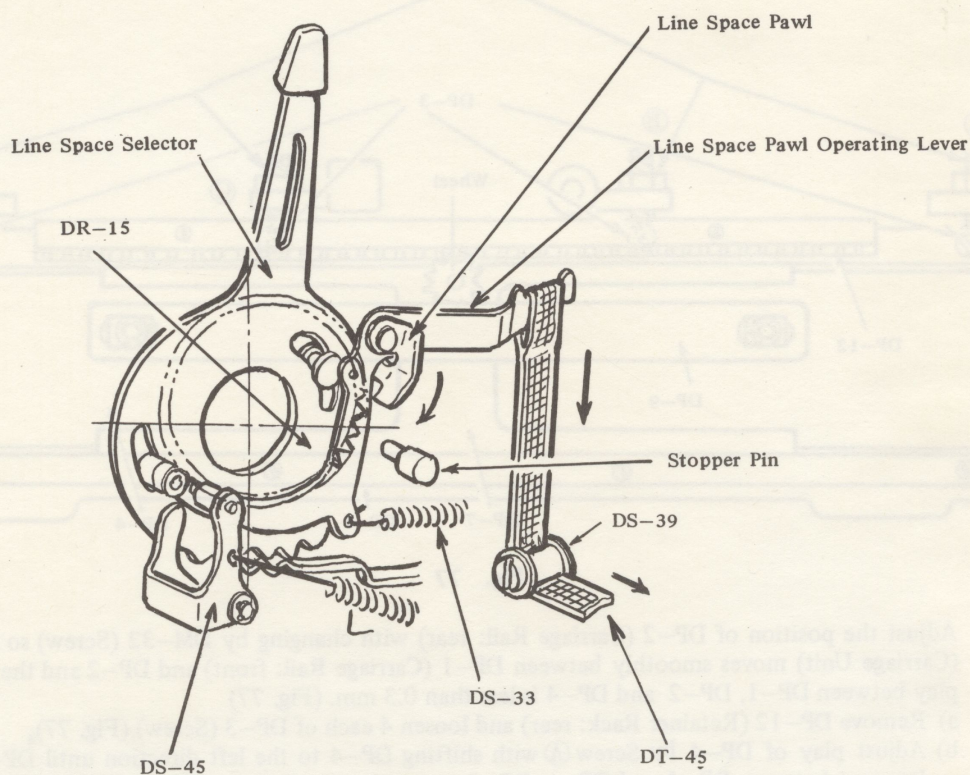


Fig. 78

DT-45 (Carriage Return Belt) will be pulled when Return Mechanism is operated by the operation of Carriage Return Key.

DR-9 (Platen) will be rotated until Line Space Pawl Operating Lever which is caulked to DS-31 (Carriage Side Plate Left Unit) is operated by DT-45, Line Space Pawl comes off from the surface of Line Space Selector and engages with DR-15 (Line Space Wheel Unit), and Line Space Pawl is stopped its operation by touching to Stopper Pin caulked to DS-31.

DR-15 is settled by DS-45 (Ratchet Roller Holder), Line Space Pawl Operating Lever is returned to the original position by DS-33 (Spring) when Return Mechanism is released, then the operation of Return Mechanism is accomplished.

When Return Space Selector is moved according to DU-6 (Line Space Indicator), Line Space Pawl is come off from the surface of Line Space Selector, engaging timing is changed, and degree to rotate DR-9 is also changed.

Then Line Space Selector is set at "R", DS-45 is pushed by Pin caulked on Line Space Selector and come off from DR-15, then DR-9 can be rotated freely. (Fig. 78)

ADJUSTMENT

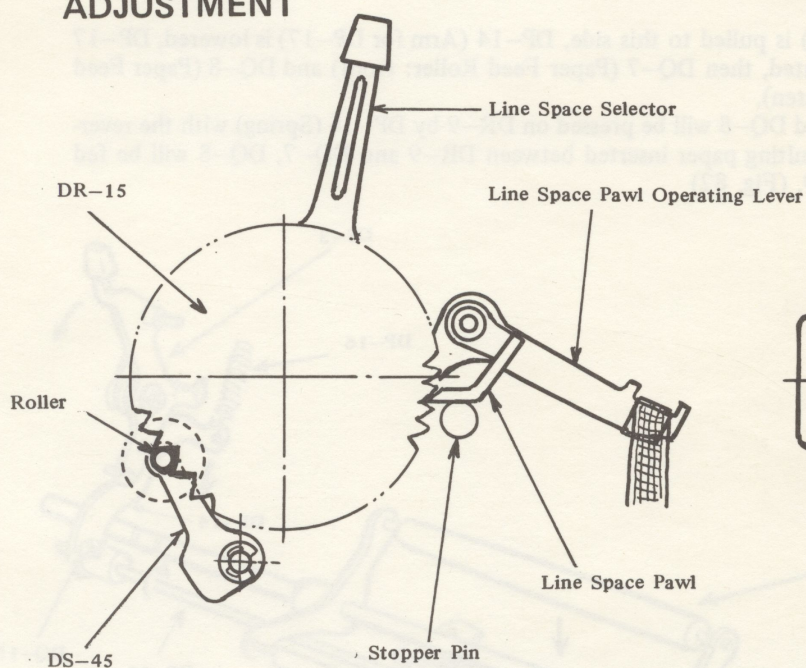


Fig. 79

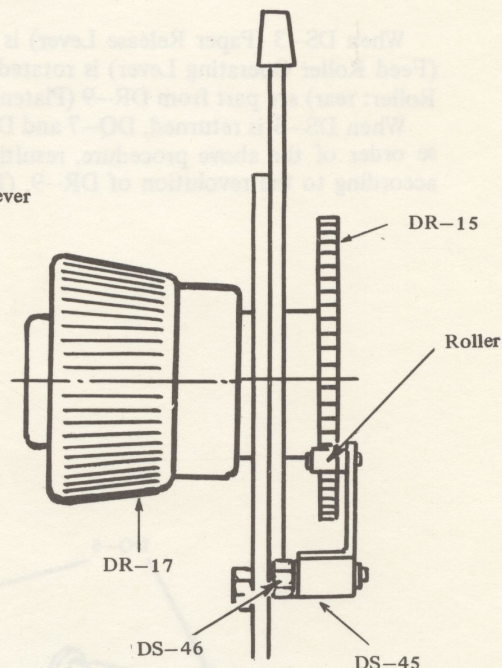


Fig. 80

- (1) Adjust the position of DS-45 (Ratchet Roller Holder) by DS-46 (Eccentric Axle for DS-45) so that the Roller of DS-45 will be placed at the center of the teeth of DR-15 (Line Space Ratchet Wheel Unit) when Line Space Pawl Operating Lever is operated manually and Line Space Pawl is touched onto Stopper Pin.
If the adjustment for the position of the Roller of DS-45 is not correct condition, Line Space of Print may be out of order and the row of characters on the same line may also be out of order. (Fig. 79, 80)

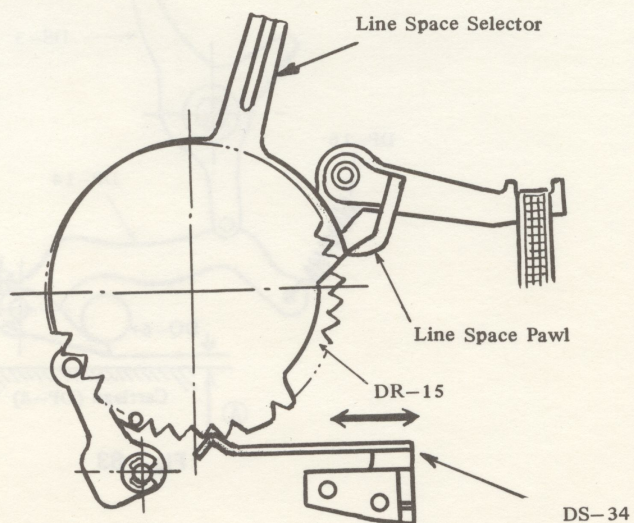


Fig. 81

- (2) Adjust the position of DS-34 (Line Space Wheel Pressure Spring) so that the revolution of DR-15 is made 2 teeth of process for setting Line Space Selector on position 1 and 6 teeth of process for position 3, from which adjust the timing when Line Space Pawl engages with DR-15.
In this adjustment, adjust the position of DS-34 so that the addendum of Line Space Pawl faces to the bottom of the teeth of DR-15 when Line Space Pawl comes off from the surface of Line Space Selector and starts to engage with DR-15. (Fig. 81)

25. PAPER RELEASE AND PAPER FEED

When DS-3 (Paper Release Lever) is pulled to this side, DP-14 (Arm for DP-17) is lowered, DP-17 (Feed Roller Operating Lever) is rotated, then DQ-7 (Paper Feed Roller: front) and DQ-8 (Paper Feed Roller: rear) are part from DR-9 (Platen).

When DS-3 is returned, DQ-7 and DQ-8 will be pressed on DR-9 by DP-16 (Spring) with the reverse order of the above procedure, resulting paper inserted between DR-9 and DQ-7, DQ-8 will be fed according to the revolution of DR-9. (Fig. 82)

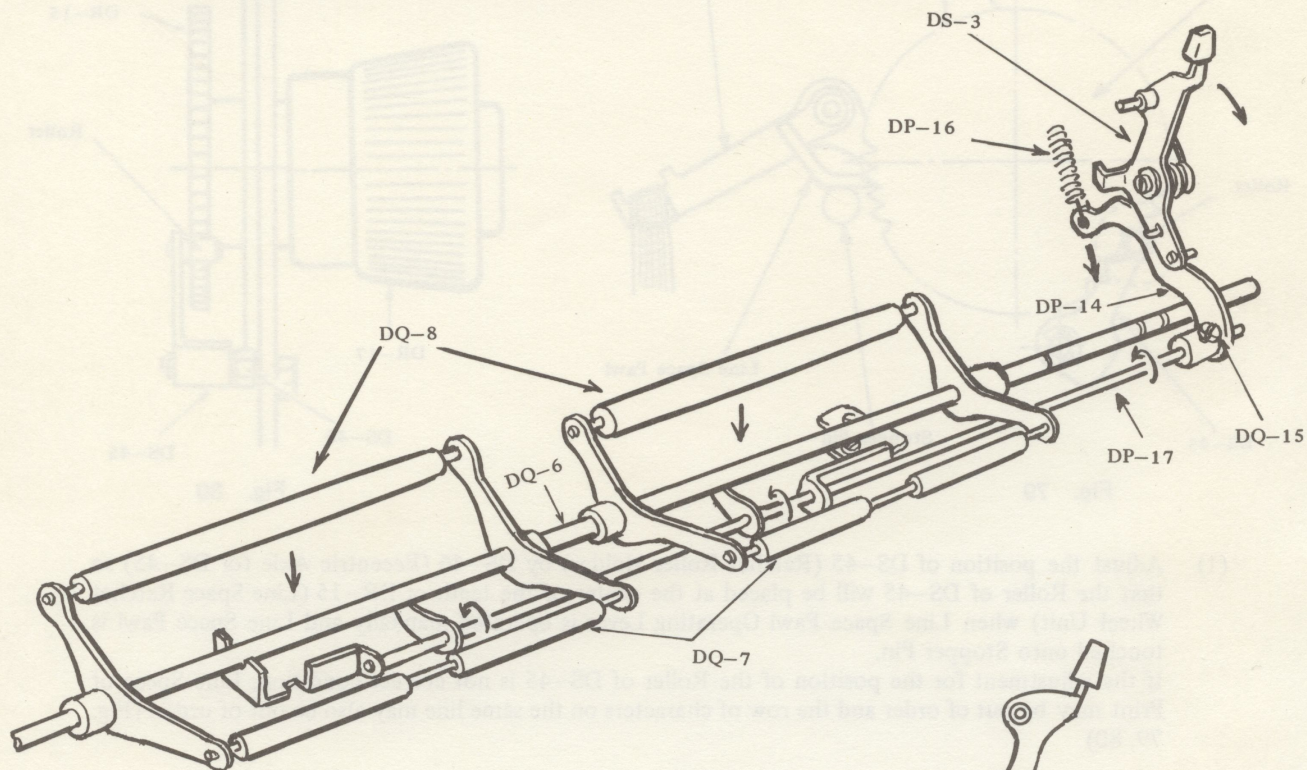


Fig. 82

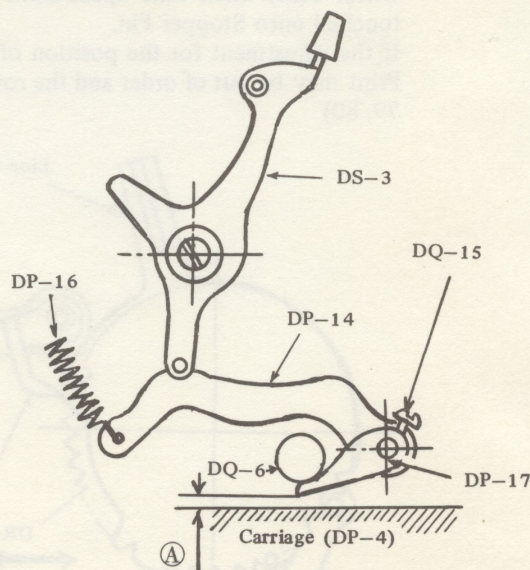


Fig. 83

ADJUSTMENT

Adjust the clearance (A) between DP-17 (Feed Roller Operating Lever) and DP-4 (Carriage Unit) to 1.6 to 1.8 mm under Paper Release condition by DP-17 with loosening DQ-15 (Screw). (Fig. 83)

26. CARRIAGE RELEASE

When either right or left of DP-27 (Carriage Release Lever Knob) is pulled to this side, DP-24 (Carriage Release Plate) is moved, and DN-18 (Space Ratchet) is released from DN-3 (Space Ratchet Wheel) by the medium of DM-43 (Carriage Release Link), resulting Carriage becomes free. (Fig. 84)

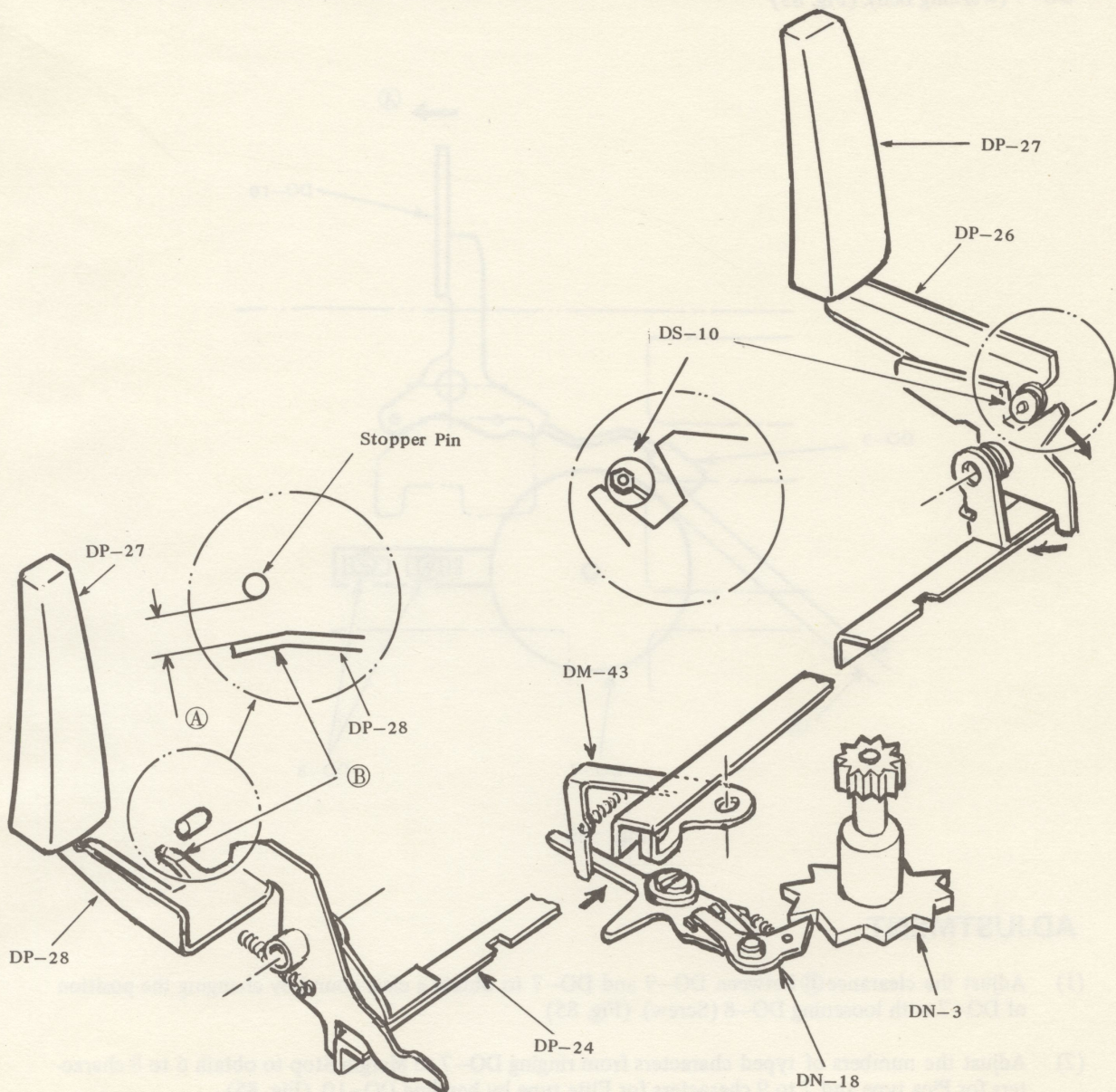


Fig. 84

ADJUSTMENT

- (1) Adjust the clearance ① between DP-28 (Carriage Release Lever: left) and Stopper Pin caulked on DS-31 (Carriage Side Plate Left Unit) from 4 to 5 mm by bending the ② portion of DP-28. (Fig. 84)
- (2) Adjust the operating range of DP-26 (Carriage Release Lever: right) with DS-10 (Eccentric Collar for DP-26). (Fig. 84)

With DP-26 and DP-28 under releasing condition of Carriage, make sure the operation of DP-24 and DM-43 for lightly movement with shifting Carriage throughout the full range of Carriage.

Furthermore, make sure that the engaging depth between DN-18 and DN-3 is not changed at the left side or right side of Carriage when Carriage is not released. (Fig. 84)

27. WARNING BELL

As Carriage moves to the left direction, DR-1 (Margin Stopper: right) hooks DO-10 (Bell Hammer Holder) and moves to the (A) direction and the engagement between DR-1 and DO-10 will be released at 10 to 7 characters prior to the position where Margin Stop is made, resulting DO-9 (Bell Hammer) strikes DO-7 (Warning Bell). (Fig. 85)

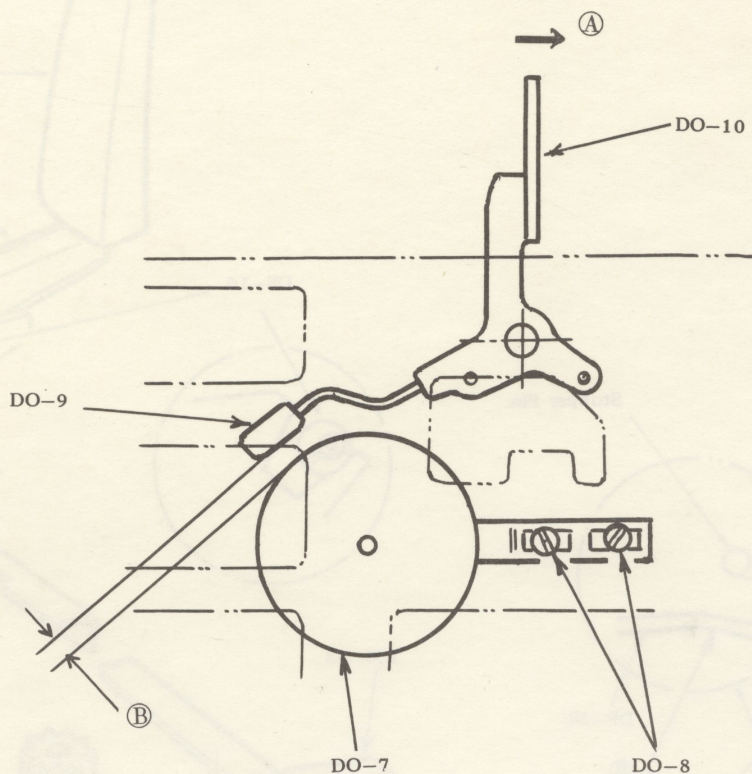


Fig. 85

ADJUSTMENT

- (1) Adjust the clearance (B) between DO-9 and DO-7 to obtain a clear sound by changing the position of DO-7 with loosening DO-8 (Screw). (Fig. 85)
- (2) Adjust the numbers of typed characters from ringing DO-7 to Margin Stop to obtain 6 to 8 characters for Pica type and 7 to 9 characters for Elite type by bending DO-10. (Fig. 85)

